



Evolution Safety Plan Original - 2018

Evolution Safety Plan posted in the ADP portal originally in 1/10/2018. Effective 3/15/2021, a supplemental policy was enacted (starting on page 359 of this total document). Effective 2/27/2024 additional supplemental policies were enacted (including enhancements related to Scaffolding, Silica Exposure and Stop Work). If there is anything included in this Supplemental document that is not covered or contradictory to material covered in the original Evolution Safety Plan, this Supplemental document takes precedence over the original Evolution Safety Plan.

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Evolution Maintenance, Inc. Safety Guiding Principle

To our employees:

The personal health and safety of our employees is our primary objective. A successful health and safety program must embody proper attitudes toward injury and illness prevention on the part of all employees. It requires cooperation in all health and safety matters, between supervisor and employee, and between each employee and coworkers. Only through a cooperative effort can we establish and preserve a health and safety program in the best interest of all.

Employees are asked to inform their supervisor or management of any work hazards or unsafe work practices. No employee should fear reprisal for notifying management of any safety hazards. In fact, we encourage all employees to inform us immediately of any hazard, no matter how small it may seem.

We will give thorough consideration to all suggestions and recommendations made by employees to improve workplace safety. Similarly, we will take disciplinary action against any employee who willfully or repeatedly violates our workplace safety rules.

Sincerely,
Daniel Stone
President, Evolution Maintenance, Inc.

Introduction to the Evolution Maintenance Safety Plan

Our company is committed to providing a safe environment for our employees. It is our policy to maintain, as it is reasonably within the control of our company to do so, a work environment that will not adversely affect our employees' health and safety or subject them to avoidable risks of accidental injury. To accomplish this, we have developed this Safety Plan [referred to as "Injury and Illness Prevention Program (IIPP)"] throughout sections of this document). The goal of our IIPP is to assist our employees in identifying hazards in the workplace, determining how to control hazards that may occur, and taking steps to prevent them from contributing to the cause of an employee injury or illness. The following describes specific requirements for program responsibility, compliance, communication, hazard assessment, accident investigations, hazard correction, training and recordkeeping. The IIPP is intended to achieve the following objectives:

- Assign authority and responsibility for implementing the program.
- Develop compliance strategies.
- Communicate with employees regarding health and safety matters.
- Provide procedures for identifying and evaluating hazards and unsafe conditions.
- Investigate accidents and incidents.

- Develop procedures for controlling and correcting hazards and unsafe conditions.
- Provide safety and health training.
- Maintain records and documentation for the program.

Overall Program Roles and Responsibilities

Program Administrator

Our Injury and Illness Prevention Program (IIPP) Administrator is the President of Evolution Maintenance.

The IIPP Administrator has the authority and responsibility for implementing the provisions of this program. Additional responsibilities of the IIPP Administrator include:

- Advising senior management on safety and health issues.
- Working with senior management to develop safety and health guidelines and policies.
- Preparing and distributing safety and health guidelines, policies and procedures.
- Maintaining current information on local, state and federal safety and health regulations.
- Serving as a liaison with governmental agencies, insurance companies and medical providers.
- Planning, organizing and coordinating safety trainings.
- Developing procedures for safe work practices and inspection guidelines.
- Arranging for safety and health inspections and following-up to ensure necessary corrective action is completed.
- Coordinating responses to employee health or safety-related complaints or concerns.
- Establishing, conducting and maintaining an injury, illness and accident report and investigation program.
- Ensuring that injury and illness trends are reviewed over time so that patterns with common causes can be identified and eliminated.
- Coordinating and maintaining injury and illness records.
- Establishing a system to maintain records of inspections, employee safety training and medical evaluations.
- Ensuring OSHA compliance.
- Assigning specific responsibilities among employees with the appropriate interest, related responsibilities or training.

Senior Management

Senior Management is committed to instilling a culture of safety in the workplace and is responsible for:

- Providing appropriate financial, human and organizational resources.

- Issuing a written safety and health policy as a core value of the organization.
- Integrating safety and health goals and objectives into business systems and processes.
- Discussing safety and health processes and improvements regularly during staff or employee meetings.
- Ensuring management is held accountable for accident-prevention processes.
- Encouraging employees to take an active role in maintaining a safe and healthful workplace.
- Following established safety and health rules and procedures.
- Recognizing employees for their safety and health efforts.

Managers and Supervisors

Managers and supervisors are responsible for implementing and maintaining the IIPP in their work areas and for answering employee questions about the IIPP. A copy of this IIPP is available from each manager and supervisor. Additional responsibilities of managers and supervisors include:

- Ensuring work areas and equipment are safe, well maintained and in compliance with external agency regulations and our company's policies, programs and practices.
- Ensuring workplace safety and health practices and procedures are clearly communicated and understood by employees.
- Enforcing health and safety rules fairly and uniformly.
- Evaluating employees on compliance with safe work practices.
- Acknowledging employees who make a significant contribution to maintaining a safe workplace and disciplining employees who fail to follow safe work practices.
- Encouraging employees to report workplace hazards without fear of reprisal.
- Ensuring scheduled periodic workplace inspections are conducted and identified health and safety deficiencies are corrected in a timely manner.
- Ensuring workplace injuries and illnesses are reported and investigated and corrective actions are taken promptly.
- Assigning specific responsibilities to employees with the appropriate interest, related responsibilities or training.

Employees

Employees must comply with all applicable health and safety regulations, company policies and established work practices. This includes, but is not limited to:

- Observing health and safety-related signs, posters, warnings, signals and directions.
- Following all safe operating procedures and precautions.
- Using proper personal protective and other required safety equipment.
- Participating in appropriate health and safety training.
- Learning about and understanding the potential hazards of assigned tasks and work areas.

- Participating in workplace safety inspections.
- Reporting unsafe conditions immediately to a supervisor.
- Stopping work if an imminent hazard is present.
- Reporting all work-related injuries and illnesses to their immediate supervisor.

Working under the influence of alcohol or illegal drugs is specifically forbidden. Employees must report the use of prescription drugs that may affect alertness or work abilities to their supervisor.

Failure to comply with or enforce health and safety rules and regulations may result in disciplinary action up to and including dismissal. Violation of work rules is a job performance issue addressed through the job performance and disciplinary process.

Program Compliance

Management

Management is responsible for ensuring that all safety and health policies and procedures are clearly communicated and understood by all employees. Managers and supervisors are expected to follow and enforce the rules fairly and uniformly.

Employees

Employees are responsible for using safe work practices; following all directives, policies and procedures; and assisting in maintaining a safe work environment.

To ensure all employees comply with our program, our company will:

- Inform employees of the provisions of our IIPP.
- Enforce rules and procedures fairly and consistently.
- Evaluate the safety performance of all employees.
- Recognize employees who demonstrate safe and healthful work practices.
- Provide training to employees whose safety performance is deficient.
- Discipline employees for failure to comply with safe and healthful work practices.

Safety Disciplinary Policy

Allowing an unsafe act or condition to continue not only jeopardizes employees, but it also undermines the entire safety and health program. To enforce our program, our company believes that employees who violate safety practices, rules and procedures should be held accountable through a disciplinary policy.

Safety Communications

Management recognizes that open, two-way communication between management and employees on health and safety issues is essential to an injury-free workplace. The following system of communication is designed to facilitate a continuous flow of safety and health information between management and employees in a form that is readily understandable and consists of one or more of the following methods. To ensure effective communication of safety and health matters, translation will be provided when appropriate.

Training

- New employee orientation, including a discussion of safety and health policies and procedures.
- Review of the IIPP.
- Workplace safety and health training programs.

Safety and Health Material and Publications

- Posted or distributed safety and health information.

Safety meetings

- Regularly scheduled safety meetings.
- Discussion of safety in departmental employee meetings.

Anonymous Hazard Reporting

- A system for employees to anonymously inform management about workplace hazards.

Open Door Policy

Our company encourages employees to report workplace hazards without fear of reprisal, and as such, we have an open door policy for employees to bring forward any safety and health issues, concerns, questions, comments and suggestions to management.

Anti-Reprisal Policy

Our company will not discharge or discriminate against any employee in any manner for reporting unsafe or unhealthy work conditions and practices. We will hold any manager who violates this policy accountable by means of our established progressive disciplinary procedures. Employees who have knowledge of unsafe or unhealthy work conditions or practices and intentionally conceal this information are in violation of our policy and are subject to our established progressive disciplinary procedures.

Hazard Assessment

Purpose

The purpose of hazard assessment is to evaluate the workplace for conditions or work practices that may contribute to the cause of an employee injury or illness. The information gained from hazard assessments will help identify and eliminate actual and potential hazards, as well as monitor accepted safety standards, procedures and equipment.

IIPP Administrator

The IIPP Administrator is responsible for ensuring that hazard assessment procedures are effectively implemented.

Procedures

Hazard assessment procedures include:

- Scheduled periodic workplace assessments
- Hazard correction
- Imminent danger
- Employee training
- Annual review
- Recordkeeping

Scheduled Periodic Workplace Assessments

Scheduled periodic assessments to identify and evaluate workplace hazards are performed by the following competent observer(s) in the following areas of our workplace.

| Competent Observer | Area |
|----------------------------|-------------------------------|
| Technician Support Manager | Jobsite, materials, equipment |
| | |
| | |
| | |

Periodic assessments are performed according to the following schedule:

- When the program is initially established.
- Whenever new substances, processes, procedures or equipment are introduced to the workplace that represent a new occupational safety and health hazard.
- When new, previously unidentified hazards are recognized.
- When occupational injuries and illnesses occur.
- When permanent or intermittent workers are hired and/or reassigned to processes, operations or tasks for which a hazard evaluation has not been previously conducted.
- Whenever workplace conditions warrant an assessment.

We will use applicable sections of the Hazard Assessment Checklist (Appendix A) and any other effective methods to complete our assessments to identify and evaluate workplace hazards.

The IIPP Administrator will verify workplace hazard assessments are conducted per the workplace hazard assessment schedule and that suitable action is taken to adequately control hazards discovered during the hazard assessments. The IIPP Administrator will make available the results of the inspections to other employees, as appropriate, to alert of hazards identified and to solicit feedback.

The IIPP Administrator will review and revise the Hazard Assessment Checklist and other documents used as inspection guides as deemed necessary and when new equipment is purchased, new procedures are instituted, or when injuries or illnesses reveal previously unsuspected hazards.

Records of hazard assessments will be maintained for five years.

Hazard Correction

In order for the assessment to contribute to hazard reduction, the IIPP Administrator or designated associate(s) will review assessment information and ensure that corrective action(s) that has been identified to eliminate/mitigate an identified uncontrolled exposure and/or hazard is implemented as soon as possible.

The Hazard Assessment and Corrective Action Form (Appendix B) will be used to track the results of the assessment as well as the corrective action(s) taken.

See the Hazard Correction section for more procedures.

Imminent Danger

Evacuation of all employees, except those trained and qualified to correct the condition, is required in situations where a hazard is judged as an immediate danger to employees. Employees working to correct the hazard are required to use the appropriate personal protective equipment, devices and procedures.

Employee Training

As part of our hazard assessment procedures, training will be provided for employees who are performing the assessments. Training will be conducted according to the following schedule:

- Prior to undertaking an assessment and annually thereafter.
- Whenever new equipment, work flow design changes, or hazards are introduced into their work area(s).

Annual Review

The IIPP Administrator will conduct an annual review of the hazard assessment procedures to ensure the process is effective.

Recordkeeping

The following records will be maintained for five years:

- Hazard assessment procedures.
- A copy of all assessments, results and corrective actions, including a record of the person who conducted the assessments, the unsafe conditions and work practices that have been identified and the corrective action(s).
- A copy of all purchased materials and services related to the corrective action(s).
- Outside agencies and/or our insurance companies may conduct regular or periodic inspections. We will retain written documentation of third-party inspections per the requirements of applicable local, state and federal requirements. The following records will be maintained for duration of employment:
- Written training records for each employee detailing the type of training received, the date(s) it was received, and names of training providers.

Injury and Illness Reporting and Accident Investigation

Purpose

The purpose of injury and illness reporting and accident investigation procedures is to establish a consistent approach for the reporting, investigating and recordkeeping of all suspected work-related injuries and illnesses as well as to comply with all of the provisions of OSHA's Recordkeeping Standards. See Appendix C and D for reporting requirements.

The purpose of the accident investigation process is not to place blame but rather to determine the root causes and implement corrective action to reduce and potentially eliminate the recurrence of similar accidents.

Our intention is to thoroughly investigate and document all work-related accidents, incidents, injuries and illnesses. The prompt reporting and investigation of work-related injuries and illnesses promotes a safe work environment by heightening safety awareness, identifying hazardous conditions and practices, notifying responsible parties who can alert others doing related tasks, and initiating equipment and procedure changes believed to be effective in preventing similar future occurrences.

Administrator

The IIPP Administrator is responsible for our injury and illness reporting and accident investigation procedures.

The IIPP Administrator has full authority to make necessary changes to the procedures to ensure success. The IIPP Administrator may designate another/other associate(s) to conduct the actual accident investigations.

Procedures

For injury and illness reporting and accident investigation to meet “best practices” and OSHA standards, the following procedures are required:

- Reporting of work-related injuries, illnesses and near-misses
- Investigating all work-related injuries, illnesses and near-misses
- Hazard correction
- Maintaining an up-to-date OSHA 300 Log
- Recordkeeping

Reporting Work-Related Injuries, Illnesses, and Near Misses

A. Employee Reporting and Immediate Follow-up

Every employee must report to his or her supervisor any work-related injury, illness, exposure or near-miss. In the event of a serious injury, illness or exposure incident, the employee, the employee’s supervisor or other designated individual must immediately notify the IIPP Program Administrator. An injury or illness is “serious” if it:

- Requires in-patient hospitalization for a period in excess of 24 hours for other than medical observation;
- An employee suffers a loss of any member of the body; or
- An employee suffers any serious degree of permanent disfigurement.

Once advised of an employee work-related injury, illness, exposure event or near-miss incident, the employee’s supervisor on duty at that time will immediately report to the scene of the occurrence to ensure prompt medical attention is given to the employee(s) involved and address any safety hazards that may have caused or contributed to the occurrence.

The supervisor, manager or other designated individual will investigate all work-related injuries, illnesses, exposures and near misses in a timely manner. The investigation will be documented using the Accident Investigation and Corrective Action Report (Appendix E). The IIPP

Administrator or designated associate(s) will verify that the report is complete and document the names of any co-workers of the injured employee who may have witnessed the occurrence.

B. Fatalities or Catastrophes

While the chance of fatal or catastrophic injuries is not very likely, we will comply with local, state and federal fatality and serious injury employee reporting requirements. The IIPP Administrator or designated associate(s) will report all fatalities or catastrophes as required.

See Appendices C and D for reporting requirements.

Accident Investigations

The IIPP Program Administrator or designated associate(s) will perform our accident, illness, exposure or near-miss investigations using the Accident Investigation and Corrective Action Report (Appendix E). The IIPP Program Administrator or designated associate(s) are responsible for ensuring that the reports are fully completed and corrective actions are addressed. Guidelines for conducting effective accident investigations are included in Appendix F.

The IIPP Program Administrator or designated associate(s) will on an as-needed basis:

- Implement temporary control measures to prevent any further injuries to employees.
- Review the scene, equipment, operations and processes to gain an understanding of the accident situation.
- Identify and interview each witness and any other individuals who might provide insight to the root cause(s).
- Investigate causal conditions and unsafe acts and make conclusions based on facts.
- Complete an accident investigation report, provide recommendations for corrective action, and determine whether changes or additions to the workplace safety rules are needed.
- The investigation of an accident that results in death is a complicated task and highly unusual. What may initially appear to be the cause may not be after the investigation. Guidelines specific to investigating a fatality are included in Appendix F. 6.3.3 Hazard Correction See section 7.0 for procedures for hazard correction. 6.3.4 OSHA 300 Log The IIPP Program Administrator or designated associate(s) will enter on the OSHA 300 Log within seven calendar days after receiving information that a work-related injury or illness has occurred or has been alleged by an employee that meet the following recording requirements:
 - Medical treatment beyond first aid (includes managing and caring for an employee for the purpose of combating disease or disorder)
 - Fatality
 - Loss of consciousness
 - Restricted work activity
 - Job transfer
 - Working less than a full day

- Days away from work
- Needle-stick injuries and cuts with potentially contaminated sharp objects

If an injured employee is unable to perform his or her regular work assignment and is temporarily assigned to a different job, the number of days assigned to the restricted job is entered on the log in the appropriate columns.

We will conspicuously post a copy of the Annual Summary of Occupational Injuries and Illnesses (OSHA 300A Log) in the facility with the year-ending totals. The log will be posted from February 1 through April 30 for the prior calendar year.

The following are not considered medical treatments and are not recordable:

- Visits to a doctor or healthcare professional for observation or counseling.
 - Diagnostic procedures including administering prescription medications that are solely for diagnostic purposes.
 - Use of non-prescription medications at non-prescription strength.
 - Administration of tetanus immunizations.
 - Cleaning, flushing, or soaking wounds on the skin surface.
 - Use of wound coverings, e.g., gauze pads, BandAids™ or SteriStrips™.
 - Use of hot or cold therapy.
 - Use of eye patches.
 - Use of any non-rigid means of support, e.g. wraps.
 - Drinking of fluids to relieve heat stress.
 - Drilling of fingernails or toenails to relieve pressure, or draining fluids from blisters.
 - Use of simple irrigation or cotton swab to remove foreign bodies from the eye.
 - Use of irrigation, tweezers, cotton swab, or other simple means to remove splinters or foreign material from areas other than the eye.
 - Use of finger guards.
 - Use of massages.
 - Use of temporary immobilization devices while transporting an accident victim, e.g., splints, neck collars, or backboards.
- 6.3.5 Recordkeeping The following records will be maintained for five years:
- Injury and illness reporting and accident investigation procedures.
 - Completed employee's first report of injury forms.
 - Completed accident investigation forms.
 - Records of post-accident corrective action and follow up.
 - OSHA Form 301 (or equivalent state-specific employer's first report of injury form), OSHA Form 300, and OSHA Form 300A are maintained on site for five years following the end of the calendar year the records cover.

Hazard Correction

Purpose

The purpose of hazard correction is to correct any identified unsafe or unhealthy work conditions, practices or procedures in a timely manner.

Program Administrator

The IIPP Administrator is responsible for our hazard correction procedures.

The IIPP Administrator has full authority to make necessary changes to the procedures to ensure success. The IIPP Administrator may designate another/other associate(s) to conduct hazard correction procedures.

Procedures

Unsafe or unhealthy work conditions, practices or procedures will be corrected in a timely manner based on the severity of the hazards. Hazards will be corrected according to the following procedures:

- When observed or discovered;
- Where a hazard is judged as an immediate danger to employees, evacuation of all employees, except those trained and qualified to correct the condition, is required. Employees working to correct the hazard are required to use the appropriate personal protective equipment, devices, and procedures is required in situations; and
- All such corrective actions taken and dates they are completed will be documented on the appropriate forms.

The following procedures will be used to evaluate, prioritize and correct identified safety hazards. Hazards will be corrected in order of priority. The most serious hazards will be corrected first.

A. Hazard Evaluation

Factors that will be considered when evaluating hazards include:

- Potential severity - The potential for serious injury, illness or fatality.
- Likelihood of exposure - The probability of employees coming into contact with the hazard.
- Frequency of exposure - How often employees come into contact with the hazard.
- Number of employees exposed.
- Possible corrective actions - What can be done to minimize or eliminate the hazard.
- Time necessary to correct - The time necessary to minimize or eliminate the hazard.

B. Hierarchy of Hazard Controls

Hazards can be controlled by implementing one or more of the following.

1. **Elimination** Elimination means removing the exposure or hazard from the work environment. Examples of elimination controls include ceasing a process or activity or removing a piece of machinery. Elimination controls are considered the most effective method of hazard control.
2. **Substitution** Substitution involves replacing something that produces an exposure or hazard with something that does not produce an exposure or hazard. An example is replacing lead-based paint with water-based paint. To be an effective control, the new product must not produce another hazard. Substitution is considered the second most effective method of hazard control..
3. **Engineering Controls** Engineering controls are used to isolate or reduce a hazard or an exposure or to place a barrier between the worker and the hazard or exposure. Examples include ventilation systems such as a fume hood, safety interlocks and machine guarding, sound-dampening materials to reduce noise levels, and manual material handling design and equipment. Engineering controls are considered the third most effective method of hazard control.
4. **Administrative Controls** Administrative controls, also known as work practice controls, are used to change the way employees work to limit or prevent exposure to hazards and to reduce the duration, frequency and severity of hazards or exposures. Examples include changes in work procedures such as written safety policies and rules, employee training, schedules, job rotation and signs and warning labels. Administrative controls are considered the fourth most effective method of hazard control.
5. **Personal Protective Equipment (PPE) Controls** PPE controls are used to reduce employee exposures to hazards and protect the employee's body from injury when elimination, substitution, engineering and administrative controls are not feasible or effective to reduce these risks to acceptable levels. Examples include safety glasses, helmets, respirators, hearing protection and protective clothing. PPE is often the least effective control for hazards and exposures and should be relied upon only when other controls are not feasible or impractical.

C. Documentation of Corrective Action

All corrective action taken to mitigate hazards and exposures will be documented and maintained for five years. Depending on the circumstances, one of the following forms may be used:

- The Hazard Assessment and Corrective Action Form (Appendix B)
- Accident Investigation and Corrective Action Report (Appendix E)
- Memo or letter

All hazards noted on hazard assessments will be rechecked on each subsequent assessment and notations made as to their status until the hazard has been documented as complete.

Safety Training and Instruction

Purpose

The purpose of employee health and safety orientation and training procedures is to establish a structure for the training of all new employees and the systematic retraining of all current employees to ensure that all employees know and can demonstrate the safe procedures associated with their job.

Program Administrator

The IIPP Administrator is responsible for our health and safety orientation and training procedures.

The IIPP Administrator has full authority to make necessary changes to the procedures to ensure success. The IIPP Administrator may designate another/other associate(s) to conduct the actual accident investigations.

Training Procedures

The IIPP Program Administrator or designated associate is responsible for ensuring that the following activities are completed within the OSHA-required timeframes and conform to the specific requirements, including documentation:

- IIPP training
- New employee orientation
- Job-specific training
- General safety training
- Retraining of employees
- Recordkeeping

IIPP Training

Injury and Illness Prevention Program (IIPP) training is provided:

- When the IIPP is first established;
- When new employees are hired;
- To all employees with respect to hazards specific to each employee's job assignment;
- When employees are given new job assignments for which training was not previously received;
- Whenever new substances, processes, procedures or equipment are introduced to the workplace and represent a new hazard;

- Whenever management is made aware of a new or previously unrecognized hazard; and
- When employees become supervisors (so that they can familiarize themselves with the safety and health hazards to which employees under their immediate direction and control are exposed).

New Employee Orientation

Workplace health and safety orientation begins on the first day of initial employment or job transfer. We educate and train our new employees on applicable safety policies and procedures prior to commencement of work or transfer to a new position. In addition, we will ensure:

- Employees have access to a copy of the IIPP for review and future reference.
- Managers ask questions of employees and answer employee questions to ensure the employees have sufficient knowledge and understanding of safety rules, policies and job-specific procedures to safely perform their job duties. All new employees will receive safety training that addresses their job specific hazards along with federal and/or state OSHA safety awareness training requirements. Health and safety training includes, but is not limited to, the following:
- Explanation of the IIPP, emergency action plan and fire prevention plan, and measures for reporting any unsafe conditions, work practices, injuries and when additional instruction is needed.
- Use of appropriate clothing, including gloves, footwear and personal protective equipment (PPE).
- Information about chemical hazards to which employees could be exposed and other hazard communication program information.
- Availability of toilet, hand-washing and drinking water facilities.
- Provisions for medical services and first aid, including emergency procedures.

In addition, we provide specific instructions to all employees regarding hazards unique to their job assignment, to the extent that such information was not already covered in other training.

A detailed list of the safety awareness training that is available and provided to our employees as appropriate is maintained in Appendix G. New employee safety orientation training is documented on the Safety Orientation Checklist located in Appendix H. Employee safety training is documented on the Employee Training and Instruction Record located in Appendix I.

Employees will acknowledge that they know, understand and will follow safety procedures. Appendix J may be used for employees to acknowledge the IIPP.

Job-Specific Training

We conduct initial and on-going job-specific training for employees who have unique hazards in their job assignments. Job-specific training consists of:

- Specific directions on how to perform the job tasks safely.
- Demonstration of safe work practices or remedial instruction to correct observed training deficiencies.
- Observation of employees performing the work.

Employees new to a work area must demonstrate the ability to perform job duties in a safe manner before they are permitted to work without supervision. After initial job-specific training is completed, the responsible individual for each work area verifies that additional specialized training on new or seldom used procedures/equipment is provided before employees are allowed to perform the procedure or use the equipment.

General Safety Training

General safety training refers to instruction or guidance that is of general applicability and not related to specialized jobs or procedures. Examples include office safety, fire safety and general hazard awareness. General safety training is conducted during new hire orientation and regularly scheduled employee departmental meetings and trainings.

Retraining for All Employees

All employees receive periodic updates on safety rules, policies, procedures and any changes made to the IIPP. The IIPP Program Administrator or designated associate verifies that all employees are retrained on those subjects that are applicable to their jobs on as required by federal and state regulations.

Individual employee retraining occurs after any work-related injury resulting from an unsafe act or when a manager/ supervisor observes employees displaying unsafe acts, practices or behaviors.

Retraining training is conducted if procedures are added or changed, if new equipment or a new process is introduced, or if new hazards are introduced into the facility.

All retraining is documented and maintained on file. Employee safety training is documented on the Employee Training and Instruction Record located in Appendix I.

Recordkeeping

The following records are maintained on file.

- Employee health and safety orientation and training procedures.
- Completed Safety Orientation Checklists (Appendix H).
- Written training records for each employee detailing the extent of training received and the date it was received.
- All training records are retained for the duration of employment.

Recordkeeping

The documentation of our implementation, compliance, and maintenance of this IIPP is maintained as follows:

- Hazard assessment and hazard correction records are kept for a minimum of five years.
- Accident investigations are maintained on file for the duration of employment.
- OSHA Form 301 (or equivalent state-specific employer's first report of injury form), OSHA

Form 300, and OSHA Form 300A are maintained on site for five years following the end of the calendar year the records cover.

- Supervisory safety training records are on file for the duration of employment.
- Employee safety training records are on file for the duration of employment.
- Exposure records, such as environmental or biological monitoring and safety data sheets, are maintained for 30 years.
- Medical records, such as medical exams, medical opinions, treatments, medical questionnaires, are maintained for the duration of employment plus 30 years.
- Medical records of employees who have worked for less than one year are provided to the employee upon termination of employment and do not need to be retained for 30 years. OSHA Logs are maintained for five years.
- Records of required Department of Transportation (DOT) drug testing, license reminder, medical reminder and green card are maintained on file for a minimum of one year.
- Documentation of periodic IIPP reviews is maintained for five years.

Emergency Action Plan

Purpose

The purpose of our Emergency Action Plan is to protect the life and safety of employees in the event of an emergency. Examples of an emergency include fire, explosion, bomb threat, tornado, severe thunderstorm, hurricane and earthquake.

Program Administrator

The Program Administrator of our Emergency Action Plan is the President of Evolution Maintenance. The Program Administrator is responsible for ensuring that the following activities are completed within the OSHA required timeframes and conform to the specific requirements, including documentation:

- Establishing procedures for reporting an emergency
- Establishing general evacuation and personnel accountability procedures
- Establishing hazard-specific evacuation and personnel accountability procedures
- Establishing procedures for employees who must remain to operate critical functions before evacuation
- Identifying staff trained and certified in CPR and first aid
- Contacts
- Training employees
- Recordkeeping (may be assigned to 3rd party representatives)

Procedures

Eight types of activities are required to meet the OSHA standard:

- Establishing procedures for reporting an emergency
- Establishing general evacuation and personnel accountability procedures
- Establishing hazard-specific evacuation and personnel accountability procedures
- Establishing procedures for employees who must remain to operate critical functions before evacuation
- Identifying staff trained in CPR and first aid
- Contacts
- Training employees
- Recordkeeping

1. Emergency Reporting Procedures

The general procedures for reporting an emergency are as follows:

- Whoever discovers that an emergency is occurring, or may occur, is responsible for reporting the emergency. The first step is to call 911. Additional emergency phone numbers are posted in a communal area(s).
- The person reporting the emergency must also notify management and other staff members so that further steps (e.g., evacuation, moving to safe areas, using an extinguisher, etc.) may be taken.
- All employees and visitors must be notified verbally unless a suitable alarm system is available.

2. General Evacuation Procedures and Personnel Accountability Procedures

A. Map of Building(s) and Evacuation Routes

For emergency evacuations, floor plans or workplace maps that clearly show the emergency escape routes and rally point locations are posted. All employees will be instructed as part of our new employee orientation what actions to take in various emergency situations that may occur in the workplace.

The floor/workplace plan(s) are reviewed with employees initially, when the plan is developed, whenever employee responsibilities under the plan change, and whenever the plan is changed.

A facility map and emergency escape routes and designated safe areas are located in Appendix A and B respectively. The map will be posted throughout of the facility.

B. Evacuation

If necessitated by a fire emergency or other internal emergency, the following procedures, intended to be complementary to any evacuation procedures established by a building manager, will be followed:

- The Program Administrator or designated associate will determine whether an evacuation is necessary. If an evacuation is warranted, the appropriate alarm will sound.

- Upon notification of an evacuation, all employees must exit the building, check wind direction, and proceed to the nearest designated safe area, which is at least 100 feet upwind of the hazard. The Program Administrator or designated associate is responsible for retrieving the visitor registration book (if any) and bringing it to the designated evacuation station.

An employee responsibility list that indicates employees responsible for assisting other employees, visitors and/ or contractors in the evacuation and checking to ensure all individuals are evacuated is located in Appendix C .

C. Evacuation of “Special Needs” Individuals

Special considerations will be given to employees and visitors who may have disabilities or limitations that could impair their ability to self-evacuate during an emergency. In these cases, employees are assigned to assist them to safely evacuate the facility if an emergency dictates.

The following procedures should be used to assist individuals with special needs.

Mobility Impaired (Wheelchair)

Employees using wheelchairs should stay in place or move to an area of refuge when the alarm sounds. If an evacuation assistant is present, the assistant will proceed to the evacuation assembly point outside the building and alert emergency personnel as to the location of the person with disability. If the person with a disability is alone, he/she should phone 911 with his/her location and indicate need of assistance or the area of refuge to which they are headed.

Mobility Impaired (Non-Wheelchair)

Employees with mobility impairments, who are able to walk independently, may be able to negotiate stairs in an emergency with minor assistance. If danger is imminent, the individual should wait until the heavy traffic has cleared before attempting the stairs. If there is no immediate danger (detectable smoke, fire or unusual odor), the person with disability may choose to stay in the building, using the other options, until emergency personnel arrive.

Hearing and Visually Impaired

Many buildings are equipped with fire alarm horn/strobes that sound the alarm and flash strobe lights. The strobe lights are for hearing-impaired persons. Persons with hearing impairments may not notice or hear emergency alarms and will need to be alerted of emergency situations. In this case, designated employees should assist in the proper notification of a building emergency.

The alarm horn is for sight-impaired persons. Most people with a visual impairment will be familiar with their immediate surroundings and frequently-traveled routes. Since the emergency evacuation route may be different from the commonly traveled route, persons who are visually impaired may need assistance in evacuating. In this case, designated employees will assist with their guidance through the evacuation route.

D. Shelter-In-Place

During certain emergency situations, particularly external threats (including weather, chemical spills, etc.), employees may be advised to “Shelter in Place” rather than evacuate the building.

The following should be adhered to when sheltering in place:

- Go or stay inside the building.
- Do not use elevators.
- Shut and lock all windows and doors.
- Turn off the heat, air conditioning or ventilation system, if the building has local controls for these systems.
- Quickly locate supplies needed (e.g., food, water, radio, etc.).
- If possible, go to a room or corridor where there are no windows. In the event of a chemical release, go to an aboveground level of the building, since some chemicals are heavier than air and may seep into basements even if the windows are closed.
- If possible, monitor for additional information via the NOAA Radio or television for further instructions.
- When the “all clear” is announced

E. Employee Headcount Procedures A daily staff work schedule of all employees will be maintained, including those who may be off-site. This list will also include the names and location of any contractors that may be on site at any given time. This list will be routinely updated with each new employee hired and non-employees will be deleted.

To ensure that all employees have safely evacuated, the following headcount procedures should be followed:

- The Program Administrator or a designated associate is responsible for conducting the headcount by having all employees report to pre-determined rally points. Each employee must orderly call out his/her name to the Program Administrator or designated associate who will check off those reporting on the roster. The Program Administrator or designated associate must verify that all visitors and contractors have left the facility by utilizing the visitor registration book (if any) as the roster. Upon completion of the headcount, the Program Administrator or designated associate will notify emergency personnel of any missing employees.
- Any individual who is aware of an employee who is out on sick leave or away from facility for any reason must report this to a supervisor, the Program Administrator or designated individual during the headcount.
- Each supervisor is responsible for communicating pre-determined rally points for all assigned employees, personally or through a designee. During an emergency evacuation, all employees must report to his/her predetermined rally point or shelter. Each employee must be accounted for through a headcount.
 - Open windows and doors.
- Rally points have been established for all evacuation routes.

- Turn on heating, air conditioning or ventilation system.
- Go outside and wait until the building has been vented.

These rally points are designated on each emergency evacuation procedure floor plan.

- All supervisors and employees must report to their designated rally points immediately following an evacuation.
- Each employee is responsible for reporting to his or her rally point so that an accurate headcount can be made. Names of all those reporting will be checked off the list, and those that did not report will be listed missing.
- The Program Administrator or designated individual will determine the method to be utilized to locate missing personnel.
- Employees are to remain at the designated rally point until the “All Clear” signal has been given by the Program Administrator or designated individual, Fire Marshall or other authority having jurisdiction.

F. Government and Private Agency Coordination

The extent of involvement, if any, by government agencies (e.g., fire, police, etc.) and/or private organizations (e.g., hospitals, telephone, company, etc.) in an emergency, will depend upon the type and magnitude of the crisis.

3. Hazard-Specific Evacuation and Personnel Accountability Procedures

A. Fire & Explosions Procedures

In the event that an employee discovers a fire, explosion or visible smoke, he/she should:

- Go to nearest phone and call 911, see that someone else calls the fire department and/or notify management. Employees should not attempt to put out the fire before emergency notification. Other procedures to follow include:
 - Stay on the phone until the fire department has been given all the necessary information, such as the address, location of the fire in the building, type of fire (chemical, wood, etc.), how it started, whether medical assistance is needed, phone number, etc.
 - The person calling the fire department is responsible for informing management of the situation and that the fire department has been notified.
 - Management will be responsible for deciding if a total evacuation of the facility is necessary (Refer to General Evacuation Procedures). If evacuating, notify other exposed employees immediately.
- Attempt to extinguish a small fire, but only if there is backup support and only if trained in the proper use of the extinguisher.
 - If attempting to extinguish a small fire, maintain a safe distance and use the PASS technique (Pull the pin, Aim low, Squeeze the lever, Sweep from side to side).
- All employees should immediately exit the building using the nearest exit. Employees must meet at the predesignated rally point and the Program Administrator or designated

individual will perform headcount procedures.

- The employee closest to a hearing impaired employee is responsible for informing the employee of the fire/explosion emergency.
- Employees must not leave or re-enter the building unless directed to do so by management, the Program Administrator, the designated individual or the fire department.
- The Program Administrator or designated individual is responsible for meeting the fire department or other responders when they arrive.
- Those employees trained in first aid are responsible for giving immediate first aid to injured employees.

B. Sabotage / Bomb Threats

Sabotage is defined as any deliberate action by an individual or group designed to cause harm to personnel, damage equipment or disrupt normal operations.

- All employees must immediately report suspected acts of sabotage to management.
- Since the results of an act of sabotage are the same as those resulting from accidental events (e.g., fire, explosion, spill, etc.), similar response procedures are to be used as appropriate
- If a bomb threat is received by telephone, the person receiving the call should attempt to gain as much information as possible, including:
 - All information about the device itself, including set time, type, description, location, etc.
 - Reason for making the call (angry with company, extortion, etc.).
 - Any information about the caller (apparent age, voice characteristics, speech, language, accent, manner, use of unusual terms, etc.).
 - Any information of the location of the caller (inside or outside a building, background noises, etc.).
- The person receiving the threat should then contact management immediately.

If no advance warning is received, employees are to attempt to seek shelter in one of the pre-designated safe areas. If this is not possible, employees should seek shelter under a table, desk or heavy piece of equipment that offers protection from falling debris.

The Program Administrator or designated individual will begin headcount procedures. The Program Administrator or designated individual will monitor the radio for updates on the weather conditions.

D. Floods

When warnings of impending flood conditions are received via weather broadcasts, U.S. Weather Service or the police/fire department, the following steps will be taken:

- The person receiving the threat should then contact management immediately.
- If management is not available, contact the police department immediately. The police

department will advise the on the next course of action. Searches are to be conducted by police with the assistance of personnel who are most able to spot “out-of -place” items. Only police personnel are to handle a suspected device.

C. Tornadoes / Severe Thunderstorms

The following procedures should be followed in the event of a tornado / severe thunderstorm.

- Employees will be notified by management.
- Upon notification of the warning, shut off all equipment and non-essential utilities.
- Close all doors and windows to the outside.
- Proceed to the nearest safe area.
- Proceed to the lowest level possible.
- Seek shelter in designated safe areas in ground level interior – rooms, restrooms or hallways away from windows.
- Once in safe area, stay low to the ground and protect head and neck from possible flying debris.
- A disaster kit(s) are available in the designated safe areas.
- Move all movable equipment to any elevated areas.
- Check outside areas for equipment and materials that could be damaged by floodwaters.
- If time allows, construct sandbagged dikes to protect high-risk items.

E. Major Earthquakes

During an earthquake, all employees, visitors and contractors should evacuate buildings and proceed to pre-designated safe areas away from walls, windows or power lines. If evacuation is not possible, employees should seek shelter under a desk, table, etc., or in doorways that offer protection from falling objects. After the initial quake, aftershocks should be expected.

F. Power Outages

Power outages can occur for just a few seconds or a few hours. In all cases, the following procedures apply.

- If a power outage lasts more than a few seconds, employees must stop what they are doing. Employees should wait for their eyes to adjust if in an area that has no natural illumination or if have trouble seeing.
- Turn off any power tool as it might “spring” back into action once power is restored.
- If power outage is due to bad weather and power will not be restored immediately, proceed to a pre-designated safe area and await further instructions from the Program Administrator or designated individual.

4. Critical Facility Operations

Procedures are established for personnel who remain behind for critical facility operations. A list by name/title and critical operations is maintained in Appendix D. As soon as the shutdown is

completed, the employees who performed critical facility operations must take the nearest exit route in accordance with general emergency procedures.

5. Staff Trained in CPR and First Aid

A list of personnel trained and certified in CPR and First Aid is maintained in Appendix E.

6. Contacts

A list of individuals and/or departments who can be contacted for further information or explanation of duties under this Emergency Action Plan is maintained in Appendix F.

7. Employee Training

Training and information is critical to the effectiveness of an emergency action plan. All employees are trained on the following:

- Evacuation plans
- Alarm systems
- Type of emergencies
- Reporting procedures for personnel
- Shutdown procedures

Training is provided at the following times:

- Initially, when the plan is developed
- For all new employees
- When new equipment, materials or processes are introduced
- When employee's responsibilities or actions under this Emergency Action Plan change
- When procedures have been updated or revised
- When exercises or drills show employee performance must be improved
- Annually

8. Recordkeeping

The following records will be maintained:

- The Emergency Action Plan document
- A copy of all inspections, results and corrective actions (retention requirement: one year)
- Facility maps detailing emergency escape routes (must also be posted)
- A listing of designated safe areas (must also be posted)
- Emergency telephone numbers (must also be posted)
- Written training records for each employee detailing the extent of training received and the

date it was received (retention requirements: duration of employment)

Appendix A – Facility Map & Emergency Escape Routes

Use floor plans or workplace maps to show primary and secondary escape routes from each area, the locations of exits, locations of fire extinguishers, and designated safe areas. Also locate any critical pieces of equipment and power shutoffs (gas, electrical, etc.). Post these maps in areas to which they apply.

Appendix B – Designated Safe Areas

Fill out one of these sheets for each area of the company. Also keep a copy of each completed sheet in this manual. Post these designated safe areas on a bulletin board in the area to which they apply.

| Emergency Situation | Area in Facility | Designated Safe Area |
|-------------------------------|------------------|----------------------|
| Fire and explosion | | |
| Hazardous material spill | | |
| Sabotage | | |
| Bomb threat | | |
| Tornado / Severe thunderstorm | | |
| Floods | | |
| Power outage | | |
| Earthquakes | | |

Appendix C – Employee Responsibility List

| Position | Employee Name | Alternate | Facility Phone # |
|-----------------------|---------------|-----------|------------------|
| Emergency coordinator | | | |
| Aid to disabled | | | |
| Stairwell monitor(s) | | | |
| Searcher(s) | | | |
| Elevator monitor(s) | | | |
| Headcount | | | |

Appendix D – Critical Facility Operations

Procedures are established for personnel who remain behind for critical facility operations. A list by name/title and critical operations is maintained below. As soon as the shutdown is completed, the employees who performed critical facility operations must take the nearest exit route in accordance with general emergency procedures.

| Name/Title | Critical Operation |
|------------|--------------------|
| | |
| | |
| | |
| | |
| | |

Appendix F – Emergency Action Plan Contacts

Individuals and/or departments who can be contacted for further information or explanation of duties under this Emergency Action Plan are listed below.

| Name/Title | Critical Operation |
|------------|--------------------|
| | |
| | |
| | |
| | |
| | |
| | |

OSHA 29CFR 1910.1030 - Bloodborne Pathogens

SCOPE AND APPLICATION

The purpose of this exposure control plan is to eliminate or minimize employee exposure to blood or other potentially infectious materials (OPIM). Other potentially infectious materials include: semen, vaginal secretions, cerebrospinal fluid, synovial fluid, pleural fluid, peritoneal fluid, amniotic fluid, saliva in dental procedures, and any body fluid visibly contaminated with blood.

RESPONSIBILITIES

Management: Though management has the ultimate responsibility for the implementation, maintenance and the success of this Bloodborne Pathogen Exposure Control Program, the responsibilities have been delegated to a named and documented Program Administrator, supervisors and the affected employees.

Management will:

- Assign a program administrator
- Ensure that an exposure determination has been completed
- Provide the appropriate engineering controls
- Provide the appropriate Personal Protective Equipment
- Offer the HEPATITIS B vaccination
- Provide the appropriate equipment to handle sharps and other waste containers
- Annually evaluate (document) procedures or new products, in the light of changes in technology that eliminate or reduce exposure to bloodborne pathogens, by checking online at www.cdc.gov for updates that pertain to the work being performed, and by comparing new products, designed by manufacturers to prevent bloodborne exposures, with those that are currently being used to minimize or mitigate occupational exposure.
- Establish and enforce safe operating rules and procedures

The Administrator for our Bloodborne Pathogens Exposure Control Program is the President of Evolution Maintenance, Inc. or a designated assignee

The Program Administrator is responsible for the administration of this program and has full authority to make necessary decisions to ensure its success. In addition, the Program Administrator is responsible for:

- Identifying employees who may encounter job related exposures to blood or OPIM
- Arranging for Hepatitis B vaccination

- Obtain signed vaccine declination document
- Selection of respiratory protection options.
- Arranging for and/or conducting training.
- Investigate exposure incidents
- Maintaining, reviewing and updating the program on an annual basis
- Maintaining records required by the program. Supervisors: are responsible for
- Identifying employees who may encounter job related exposures to blood or OPIM
- Maintain training records for those employees
- Prior to initial job assignment, confirm that employees included in this program have been provided the opportunity to receive the Hepatitis B vaccination series.
- Ensure that the appropriate cleaning supplies for this program are available

Employees:

Follow the guidelines, rules, and provisions found in this program, and use the appropriate personal protective equipment outlined on the completed “Engineering Controls and Work Practices” documents found in Appendix A and in accordance with your training. Employees will also:

EXPOSURE CONTROL PLAN Each employer having an employee or employees with an occupational exposure to blood or OPIM must establish a written Exposure Control Plan. The plan must include at least the following:

- Identifies jobs and tasks where occupational exposure to blood or other potentially infectious material occurs. Describes how the employer will:
- Use engineering and work practice controls
- Ensure use of personal protective equipment
- Provide training
- Provide medical surveillance
- Provide hepatitis B vaccinations
- Use signs and labels

The plan must be made available to employees and shall be reviewed at least annually or whenever necessary to reflect new or modified tasks, procedures, or technology, which affect occupational exposures.

Employers, in the medical fields, must solicit input from non-managerial employees responsible for patient care who are potentially exposed to contaminated sharps in the identification, evaluation, and selection of effective engineering and work practice controls. The employer must annually document the consideration and implementation of appropriate commercially available and effective safer medical devices designed to eliminate or minimize occupational exposures.

EXPOSURE DETERMINATION An exposure determination without regard to the use of personal protective equipment has been conducted and contains the following:

- A list of all job classifications in which all employees in these job classifications have occupational exposure.
- A list of job classifications in which some employees have occupational exposures.
- A list of tasks and procedures or groups of closely related tasks and procedures in which occupational exposure occurs. See Appendix A

METHODS OF COMPLIANCE General Universal precautions shall be used to prevent contact with blood or OPIM. Under circumstances in which identification of body fluid types is difficult or impossible, all body fluids should be considered potentially infectious materials.

Engineering and Work Practice Controls Engineering and work practice controls shall be used to eliminate or minimize employee exposure. Where occupational exposure occurs after the controls are implemented, personal protective equipment must also be used.

The following engineering/work practice controls have been established to eliminate or minimize exposure:

- Hand washing facilities, antiseptic hand cleaner, and/ or antiseptic towelettes are provided for immediate use (employees must still wash hands as soon as possible following the use of antiseptic hand cleaner/towelettes).
- Employees must wash their hands immediately after removing gloves or other PPE.
- Employees must wash any other exposed skin with soap and water, or flush mucous membranes with water immediately or as soon as feasibly following contact of body parts with blood or OPIM.
- Contaminated needles or other contaminated sharps shall not be bent, or recapped. The only exception is when the bending, recapping, or needle removal can be accomplished through the use of a mechanical device or a one-handed technique.
- Contaminated sharps must be placed in an appropriate container as soon as possible after use. The sharps container must be puncture resistant, properly labeled or color-coded, and leakproof on the sides and bottom. Reusable sharps that are contaminated with blood or OPIM shall not be stored or processed in a manner that requires employees to reach by hand into the containers where these sharps have been placed.

- Eating, drinking, smoking, applying cosmetics or lip balm, and handling contact lenses is prohibited in work areas where blood or OPIM are present.
- Food and drink shall not be kept in refrigerators, freezers, shelves, cabinets, or on countertops where blood or OPIM are present.
- All procedures involving blood or OPIM shall be performed in such a manner as to minimize splashing, spraying, spattering, and generating droplets of these substances.
- Mouth pipetting/suctioning of blood or OPIM is prohibited.
- Specimens of blood or OPIM shall be placed in a container which prevents leaking during collection, handling, processing, storage, transport, or shipping. These containers must be labeled or color-coded (see Signs and Label section for details) and closed prior to being stored, transported, or shipped. If the specimen could puncture the container or contamination outside of the primary container occurs, the primary container must be placed within a secondary container that meets the above container requirements.
- Equipment that may be contaminated with blood or OPIM shall be examined prior to shipping or servicing and must be decontaminated as necessary.

PERSONAL PROTECTIVE EQUIPMENT

When there is occupational exposure, the appropriate personal protective equipment (PPE) will be provided to the employee at no cost. PPE includes gloves, gowns, laboratory coats, face shields or masks and eye protection, mouthpieces, resuscitation bags, pocket masks, or other ventilation devices. PPE is only considered appropriate if it does not permit blood or OPIM to pass through to the employees' work clothes, street clothes, undergarments, skin, eyes, mouth or other mucous membranes under normal conditions of use.

The Program Administrator or supervisor(s) will ensure that the employee uses the appropriate PPE and that PPE is readily accessible (in the appropriate sizes) at the worksite or issued to the employees. Hypoallergenic gloves, glove liners, powderless gloves, or other similar alternatives shall be readily accessible to those employees who are allergic to the gloves normally provided.

The PPE must be cleaned, laundered, and disposed of at no cost to the employee. Any PPE contaminated with blood or OPIM should be removed from the workplace immediately or as soon as feasible. PPE should be repaired or replaced at no cost to employees. All PPE must be removed prior to leaving the work area.

The list and the location of all necessary PPE needed to perform the various tasks under this program is listed on the "Engineering Controls and Work Practices" document, Appendix A.

Gloves

Gloves will be worn when it can be reasonably anticipated that the employee may have hand contact with blood, OPIM, mucous membranes, and non-intact skin.

Disposal (single use) gloves such as surgical or examination gloves must be replaced as soon as practical when contaminated or as soon as feasible when torn, punctured, or when their ability to function as a barrier is compromised. Disposal gloves shall not be washed or decontaminated for re-use.

Utility gloves may be decontaminated for re-use if the integrity of the glove is not compromised. However, they must be discarded if they are cracked, torn, punctured, or exhibit other signs of deterioration or when their ability to function as a barrier is compromised.

Employees working in volunteer blood donation centers are not required to use gloves in all circumstances. However, gloves must be made available to all employees who wish to use them and the use of gloves for phlebotomy should not be discouraged. The use of gloves is required when the employee has cuts, scratches, or other non-intact skins, when the employee judges that hand contamination may occur (for example, when performing phlebotomy on an uncooperative person), and when the employee is receiving training in phlebotomy.

Other PPE

Masks in combination with eye protective devices, such as goggles or glasses with eye shields, or chin length face shields, must be worn whenever splashes, sprays, spatter, or droplets of blood or OPIM may be generated and eye, nose or mouth contamination can be anticipated.

Gowns, aprons, lab coats, clinic jackets, or similar outer garments shall be worn in occupational exposure situations. Surgical caps or hoods and/or shoe covers or boots shall be worn in instances where gross contamination can be anticipated.

HOUSEKEEPING

The worksite must be maintained in a clean and sanitary condition. The employer shall determine and implement an appropriate written schedule for cleaning and method of decontamination. The appropriate method for decontamination will be based upon the location, type of surface to be cleaned, types of contamination, and the tasks and procedures being performed in the area.

All equipment and working surfaces must be cleaned and decontaminated after contact with blood or OPIM. Contaminated work surfaces must be decontaminated with an appropriate disinfectant after completion of procedures, immediately or as soon as feasible after any spill of blood or OPIM, and at the end of the work shift if the surface may have been contaminated since the last cleaning. Protective coverings (plastic wrap, foil, absorbent paper) must be removed or replaced as soon as feasible when they become contaminated or at the end of the shift if the possibility for contamination during the work shift exists.

Sharps containers are to be maintained upright throughout use, and replaced when 2/3 full.

All bins, pails, or other receptacles intended for reuse that have a reasonable likelihood for becoming contaminated with blood or OPIM shall be inspected and decontaminated on a regularly scheduled basis. They shall be cleaned and decontaminated immediately or as soon as feasible when contaminated.

Broken glassware that may be contaminated must not be picked up directly with the hands. It should be cleaned up using a brush and dustpan, tongs, or forceps.

REGULATED WASTE AND LAUNDRY

Contaminated sharps shall be discarded in a sharps container immediately or as soon as feasible following use. The sharps containers must be closable, puncture resistant, leakproof on sides and bottom, and labeled or color-coded. Containers must be located close to the area where the sharps are being used and must be replaced routinely to prevent overfilling. Containers must be kept closed after use and must not be emptied or cleaned in any manner that would expose employees to the risk of percutaneous injury.

Other regulated waste must be placed in containers that are closable and constructed to prevent leakage of fluids during handling, storage, transportation, or shipping. Containers must be labeled or color-coded. If outside contamination of the regulated waste container occurs, it must be placed in a second container that meets the same requirements.

Contaminated laundry should be bagged or containerized at the location of use and should be handled as little as possible. Contaminated laundry should be placed and transported in bags or containers label or color-coded. Container must be leakproof if the contaminated laundry is wet and presents a reasonable likelihood of leakage.

Employers handling contaminated laundry must wear gloves and other appropriate personal protective equipment.

SIGNS AND LABELS

Warning labels must be affixed to containers of regulated waste, refrigerator/freezers containing blood or OPIM, and other containers used to store, transport, or ship blood or OPIM. Contaminated equipment must also be labeled and must also state which portions of the equipment remain contaminated.

The labels should be fluorescent orange or orange-red, with lettering and symbols of contrasting colors. The labels must be attached in a manner that prevents their loss or unintentional removal. Red bags or red containers may be substituted for labels. Containers of blood (or blood products) that have been released for clinical use or are placed in labeled containers are exempt from the labeling requirement.

Regulated waste that has been decontaminated does not have to be labeled.

EMPLOYEE TRAINING

Training will be provided to employees with occupation exposure during work hours and at no cost to the employee. The training will be provided at the time of their initial assignment to job tasks where occupational exposure may occur. Annual training for all employees will be provided within one year of their previous training. Additional

training is required when changes or modifications of tasks or procedures affect the employee's occupational exposure. Training material will be appropriate in content and vocabulary to the educational, literacy, and language level of the employees.

The person conducting the training must be knowledgeable in the subject matter covered by the elements contained in the training program as it relates to the workplace that the training will address. The training program must include the following elements:

- An accessible copy of the regulatory standard and an explanation of its contents.
- An explanation of the epidemiology of bloodborne pathogens and an explanation of the modes of transmission of bloodborne pathogens.
- An explanation of your company's/organization's exposure control plan and how the employee can obtain a copy of the written plan.
- An explanation of the appropriate methods for recognizing tasks and other activities that may involve exposure to blood or OPIM.
- An explanation of the use and limitations of methods that will prevent or reduce exposure including appropriate engineering controls, work practices, and personal protective equipment.
- Information on the types, proper use, location, removal, handling, decontamination, and disposal of PPE.
- An explanation of the basis for selection of PPE.
- Information on the hepatitis B vaccination including information on its safety, method of administration, benefits of being vaccinated, and that the vaccination will be offered free of charge.
- Information on the appropriate actions to take and persons to contact in an emergency involving blood or OPIM.
- An explanation of the procedure to follow if an exposure incident occurs, including the method of reporting the incident and the medical follow-up that will be made available.
- Information on the post-exposure evaluation and follow-up procedures that is provided following an exposure incident.
- An explanation of the signs, labels, and/or color-coding required.
- An opportunity for interactive questions and answers with the person conducting the training session.

HEPATITIS B VACCINATION

All employees who have occupational exposures to blood and OPIM will be offered the hepatitis B vaccination (a three-shot program) within 10 days of their initial assignment (unless the employee has previously received the vaccination series or antibody testing indicated that the employee is immune). The vaccination will be available to the employee at no cost and includes any boosters or antibody testing required.

If the employee declines the vaccination, he/she must sign the declination statement (Appendix B). The vaccination must still be made available to the employee if they decide to accept the vaccination at a later date.

POST-EXPOSURE EVALUATION AND FOLLOW-UP

Should an exposure incident occur, a confidential medical examination and follow-up will be made immediately available to the employee. The examination and follow-up will include the following elements:

- Documentation of the route of exposure and the circumstances under which the exposure incident occurred.
- Identification of the source individual (unless prohibited by local law).
- The source individual's blood shall be tested as soon as feasible after consent (if required under local law) is obtained in order to determine HBV and HIV status. When the source individual is already known to be infected with HBV or HIV, additional testing is not required.
- Results of the source individual's testing will be made available to the exposed employee. The employee shall be informed of applicable laws related to the disclosure of the identity and infectious status of the source individual.
- The exposed employee's blood shall be collected as soon as feasible and tested after consent is obtained. If consent is not obtained when the blood is drawn, the blood sample must be preserved for at least 90 days. If within 90 days of the exposure incident the employee elects to have the baseline sample tested, the testing will be done as soon as feasible.
- The employee will be offered post-exposure prophylaxis when medically indicated (as recommended by the US Public Health Service).
- The appropriate counseling and evaluation of reported illnesses will be made available to the employee.

Following an exposure incident, the Program Administrator will provide the following information to the healthcare professional evaluating an employee:

- A copy of the Bloodborne Pathogens Regulation
- Description of employee's duties as they relate to the exposure incident
- Documentation of the route or routes of exposure and circumstances of exposure

- Results of the source individual's blood testing (if available)
- Medical records relevant to the appropriate treatment including vaccination status

The Program Administrator shall obtain and provide the employee with a copy of the evaluating healthcare professional's written opinion within 15 days of the completion of the evaluation. The written opinion shall be limited to confirming that the employee has been informed of the results of the evaluation and has been told about any medical conditions resulting from exposure to blood or OPIM which require further evaluation or treatment. All other findings or diagnoses will remain confidential and are not to be included in the written report.

RECORDKEEPING

We will establish and maintain medical and training records for each employee with occupational exposures. These records will be available upon request for examination and copying to the subject employee, to anyone having written consent from the subject employee, and to the Director/ Assistant Director.

Medical Records

Medical records shall be maintained for at least the duration of employment plus 30 years. The medical record for each employee with occupation exposure to blood or OPIM must include the following:

- Name and social security number of the employee.
- A copy of the employee's hepatitis B vaccination status including the dates of all the hepatitis B vaccinations and any medical records relative to the employee's availability to receive vaccination.
- A copy of all results of examinations, medical testing, and follow-up procedures.
- A copy of information provided to the healthcare profession.
- All medical records must be kept confidential and not disclosed or reported without the employee's express written consent to any person within or outside of the workplace except as required by this section or as required by law.

Training Records

Training records shall be maintained for 3 years from the date of training. Employee training records shall include the following information:

- The dates of the training session.
- The contents or a summary of the training sessions.
- The names and qualifications of persons conducting the training.

- The names and job titles of all persons attending the training sessions.

Sharps Injury Log

The employer must establish and maintain a sharps injury log for the recording of percutaneous injuries from contaminated sharps. The information on the log must be recorded and maintained in a manner to protect the confidentiality of the injured employee. The sharps log must contain the department or work area where the exposure incident occurred, an explanation of how the injury occurred, and the type and brand of device involved in the incident.

Appendix A – Exposure Determination and Control

Job Classifications in Which All Employees Have Occupational Exposures

(Copy as necessary to document each job classification)

Job Classification Exposure: _____ Tasks/Procedures w/Occupation: _____

Work Practice Controls: _____

Job Classification Exposure: _____ Tasks/Procedures w/Occupation: _____

Work Practice Controls: _____

Job Classification Exposure: _____ Tasks/Procedures w/Occupation: _____

Work Practice Controls: _____

Job Classification Exposure: _____ Tasks/Procedures w/Occupation: _____

Work Practice Controls: _____

Job Classification Exposure: _____ Tasks/Procedures w/Occupation: _____

Work Practice Controls: _____

Appendix B – HBV Vaccination Refusal

I understand that due to my occupational exposure to blood or other potentially infectious materials I may be at risk of acquiring Hepatitis B Virus (HBV) infection. I have been given the opportunity to be vaccinated with Hepatitis B vaccine, at no charge to myself. However, I decline Hepatitis B vaccination at this time. I understand that by declining this vaccine, I continue to be at risk of acquiring Hepatitis B, a serious disease. If in the future I continue to have occupational exposure to blood or other potentially infectious materials and I want to be vaccinated with Hepatitis B vaccine, I can receive the vaccination series at no charge to me.

| | |
|---------------------------------|----------------------------|
| _____ Employee Signature | 1/10/2018 _____ Date |
| _____ Company Representative | _____ Date |

Appendix C – Decontamination and Sterilization Procedures

All surfaces, tools, equipment and other objects that come in contact with blood or potentially infectious materials must be decontaminated and sterilized as soon as possible.

Equipment and tools must be cleaned and decontaminated before servicing or being put back to use.

Decontamination should be accomplished by using

- A solution of 5.25% sodium hypochlorite (household bleach / Clorox) diluted between 1:10 and 1:100 with water. The standard recommendation is to use at least a quarter cup of bleach per one gallon of water.
- Lysol or some other EPA-registered tuberculocidal disinfectant. Check the label of all disinfectants to make sure they meet this requirement.

If you are cleaning up a spill of blood, you can carefully cover the spill with paper towels or rags, then gently pour your 10% solution of bleach over the towels or rags, and leave it for at least 10 minutes. This will help ensure that the bloodborne pathogens are killed before you actually begin cleaning or wiping the material up. By covering the spill with paper towels or rags, you decrease the chances of causing a splash when you pour the bleach on it.

If you are decontaminating equipment or other objects (be it scalpels, microscope slides, broken glass, saw blades, tweezers, mechanical equipment upon which someone has been cut, first aid boxes, or whatever) you should leave your disinfectant in place for at least 10 minutes before continuing the cleaning process.

Of course, any materials you use to clean up a spill of blood or potentially infectious materials must be decontaminated immediately, as well. This would include mops, sponges, re-usable gloves, buckets, pails, etc.

Appendix D – Exposure Incident Report
Bloodborne Pathogens Standard Exposure Incident Report

| | |
|---|--|
| Date of Incident: _____ | |
| Location of Incident: _____ | |
| Employee Job Classifications: _____ | |
| Tasks and Procedures Performed: _____ | |
| Routes of Exposures (needlestick, eye, non-intact skin, mouth, etc.): _____ | |
| Description of sharps or other devices involved (include type and brand): _____ | |
| Personal Protective Equipment Worn: _____ | |
| Additional Information: _____ | |

| | |
|---|---------------|
| _____ Evaluator Name/Title (Please Print) | |
| _____ Signature | _____ Date |

Appendix E – Sharps Injury Log

The information on the log must be recorded and maintained in a manner to protect the confidentiality of the injured employee.

[illegible]

Appendix F – Identification/Selection of Available Engineering Control Devices

The most effective method to prevent or minimize employee exposure to blood or OPIM is the use of effective engineering controls. Engineering controls for sharps include the use of needleless systems and sharps with engineered sharps injury protection (ESIP). ESIP means either:

1. A physical attribute built into a needle device used for withdrawing bodily fluids, accessing a vein or artery, or administering medications or fluids, which effectively reduces the risk of an exposure incident by a mechanism such as a barrier creation, blunting, encapsulating, withdrawal, or other effective mechanism.

2. A physical attribute built into any other types of needle device or into a non-needle sharp which effectively reduces the risk of an exposure incident.

To implement a process by which these devices can be identified and evaluated the following process should be implemented:

1. Solicit/Appoint Team Members – This group will identify devices and conduct evaluations of the selected devices to determine the functionality of each device as it applies to their specific workplace. This team must include non-managerial employees who are directly involved in patient care.
2. Define Needs – Review tasks and procedures performed by the various departments and the potential exposures that will be addressed. These tasks should be prioritized based on the potential for an exposure incident and the number of employees potentially exposed.
3. Gather Information – Gather and review information on currently available engineering control devices that are designed to reduce occupational exposures.
4. Test and Select Products – When available, multiple devices should be screened for each potential exposure being addressed. Product testing will help eliminate devices that may not be functional in all work environments. The attached evaluation sheet (Appendix I) should be used to ensure that the testing/evaluation process is the same for all devices and that the evaluations are documented.
5. Use New Products – New devices may be used on a limited basis during a trial period. During this phase, employees should be encouraged to report any issues or concerns that arise. All employees using the new devices must receive training on the use of the new devices. Training should include a demonstration of proper use and application, safe operations, and an opportunity for questions.
6. Conduct Follow-up – Follow-up will help ensure that the new devices are effective and appropriate. Decisions on the devices should not be made until employees have had enough time to adjust to the new products. The evaluation sheet can also be used to reevaluate the device during the follow-up phase. The follow-up must include input from non-managerial employees involved in direct patient care.

Appendix G – Sharps Needlestick Prevention (Safety) Device Evaluation Form

Date: _____ Reviewer: _____ Device: _____

During Use:

- | | | | |
|---|-----|----|-----|
| 1. Does the device prevent needlestick during use? | Yes | No | N/A |
| 2. Can the safety feature be activated using a one-handed technique? | Yes | No | N/A |
| 3. The tip of the sharp remains visible (safety device doesn't obscure view)? | Yes | No | N/A |
| 4. Use of this product requires that you use the safety feature? | Yes | No | N/A |
| 5. This product requires the same amount of time to use as non-safety device? | Yes | No | N/A |
| 6. The safety feature works well with a wide variety of hand sizes. | Yes | No | N/A |
| 7. This device is easy to handle while wearing gloves? | Yes | No | N/A |
| 8. This device offers a good view of any aspirated fluid? | Yes | No | N/A |
| 9. This device will work with all required syringe/needle sizes? | Yes | No | N/A |
| 10. This device provides a better alternative to traditional recapping? | Yes | No | N/A |

After Use:

- | | | | |
|---|-----|----|-----|
| 11. It is clear when the safety device is activated? | Yes | No | N/A |
| 12. The safety feature operates reliably? | Yes | No | N/A |
| 13. The exposed sharp is permanently blunted or covered after use? | Yes | No | N/A |
| 14. The device is no more difficult to process after use than non-safety devices? | Yes | No | N/A |

Training:

- | | | | |
|--|-----|----|-----|
| 15. The device is easy to use without extensive training? | Yes | No | N/A |
| 16. The design of the device suggests proper use? | Yes | No | N/A |
| 17. Is the technique required for use similar to that of non-safety devices? | Yes | No | N/A |

Overall:

- | | | | |
|---|-----|----|-----|
| 18. Would you recommend use of this product? | Yes | No | N/A |
| 19. Comments (concerns or questions regarding the safety of this product): _____ | | | |

Construction Fall Protection Program

INTRODUCTION

The company is firmly committed to the safety of our employees. We will do everything possible to prevent workplace accidents by providing a safe working environment for all employees.

Millions of workers are potentially exposed to falls from elevation hazards each day. Therefore, the company is committed to providing all employees with the proper equipment and necessary training to do their work safely and prevent fall hazards. This Fall Protection Program (“Program”) provides employees with an overview of the steps the company is taking, with the help of all employees, to protect employees from fall hazards in the workplace. In compliance with this Program, the company will ensure that all potential fall hazards are evaluated, and that information concerning their hazards is transmitted to employees.

This Program outlines the company’s general safety rules related to fall hazards and is not inclusive of every safety rule to protect employees from fall hazards. The company may provide employees with additional fall protection rules and procedures through trainings, meetings, and other written policies and procedures. Employees are expected to follow all safety and health standards and rules which apply to their work.

A key factor in implementing this Program will be the strict compliance to all applicable federal, state, and local laws, as well as all company policies and procedures. This Program has been established to help you stay safe and injury free. Failure to comply with this Program may result in disciplinary action, up to and including termination.

SCOPE AND APPLICATION

The purpose of this Program is to ensure that potential fall hazards are identified and properly controlled. This goal will be accomplished through effective engineering and administrative controls, use of fall protection systems, enforcement of the Program and employee safety training.

Fall protection in construction is complex, requiring knowledge of OSHA’s construction fall protection requirements (29 CFR Part 1926, Subpart M). This Program contains a great deal of detail, but is not a replacement for OSHA’s construction fall protection standard. Every employer has a duty to assure that adequate fall protection is provided for its workers. If there is doubt regarding the fall protection or prevention provided at a job site, workers should not be placed in jeopardy until safety concerns are satisfactorily addressed.

This Program contains the following elements, which will be discussed in more detail below:

- Assignment of Responsibilities
- Workplace Fall Hazard Identification
- Fall Hazard Protection Plan
- Fall Hazard Protection Requirements

- Equipment Inspection, Storage and Maintenance
- Employee Safety Training
- Program Evaluation
- Recordkeeping

I. ASSIGNMENT OF RESPONSIBILITIES

The President of Evolution Maintenance has been assigned as Program Administrator. Management: Though management has the ultimate responsibility for the implementation, maintenance and the success of this Program, the responsibilities are generally delegated to a named and documented Program Administrator, supervisors, if any, and the affected employees themselves.

Management will:

- Provide adequate and timely resources necessary to support this Program.
- Appoint a Program Administrator with the requisite knowledge, experience, training and authority to direct this Program (typically will be the assigned Zone Facility Manager).
- Ensure proper employee safety training is being provided on all equipment and procedures.
- Establish and enforce safe operating rules and procedures.
- Ensure the walking/working surfaces on which employees are to work have the strength and structural integrity to support employees safely.

Program Administrator is responsible for the development, administration and the monitoring of this Program and has full authority to make necessary decisions to ensure its success and has the complete authority to halt any operations where there is a risk of employee injury associated with EXPOSURES AND HAZARDS RELATED TO FALLS. The Program Administrator will review and evaluate this Fall Protection Program on an annual basis to account for changes that occur to the OSHA Standards that mandate review or for changes implemented due to corrective actions from an accident or a close-call related to falls or any time the Program does not appear to be adequate.

In addition, the Program Administrator will:

- Have a working knowledge of current fall protection regulations, standards, equipment and systems.
- Have the authority to immediately stop work if he/she determines that it is unsafe to proceed with the workplace activities.
- Assist supervisor(s)/foremen in the completion of the "Fall Hazard Assessment Form."
- Purchase, if required, the appropriate fall prevention and fall protection equipment.
- Verify that fall protection systems have been installed and inspected in compliance with this standard and all applicable federal, state and local regulations.
- Advise and provide guidance to supervisors and employees on all managed Program matters.

- Establish and assign all duties and responsibilities outlined in this Program to individuals who are trained and qualified to perform them.
- Establish and implement a procedure to identify and eliminate, or control, new and existing fall hazards.
- Develop fall protection and rescue procedures for every location where an active fall protection system (fall restraint or fall arrest) is used.
- Provide specific training for all authorized, competent and qualified persons or verify that those persons are provided with the training.
- Participate in the investigation of all incidents related to falls from heights, including:
 - o Reviewing incident reports
 - o Taking corrective action to eliminate causes
 - o Making necessary reports to management
 - o Maintaining an incident reporting system
 - o Conduct periodic and annual program evaluations.

Supervisors are responsible for assisting in the implementation of this Program and ensuring that employees are complying with the requirements of the Program and all applicable standards and rules. This includes maintaining the areas so they are free from fall hazards and overseeing the proper use of fall protection equipment.

In addition, supervisors will:

- Identify the activities and locations where fall hazards exist;
- Issue fall protection equipment and provide employees with the manufacturer's instructions for use, care, limitations and warnings for such equipment;
- Ensure that fall protection training is provided;
- Enforce the Program by ensuring that all subordinates comply with all facets of the program;
- Inspect for damage and follow the manufacturer's instructions for damaged equipment and equipment that has experienced a free-fall arrest;
- Inform the company and affected employees when/if an imminent danger exists; and
- Evaluate the access requirements of each work assignment and choose the best means of access for the job while considering the following job requirements:
 - Number of employees requiring access to areas where the use of fall protection is required or where fall hazards have been identified

Employees are responsible for following the work practices and procedures established by this Program. Employees are also responsible for informing their supervisor of any unsafe work practices or conditions they observe as it relates to this Program. In addition, employees are responsible for:

- Attending fall protection training;
- Properly using and caring for fall protection equipment;
- Following the Fall Protection Program requirements;
- Reporting any problems to the immediate supervisor that are observed which could compromise health and safety;
- Ensuring no other individuals are exposed to fall hazards based on the operations being conducted; and
- Inspect for damage and follow the manufacturer's instructions for damaged equipment and equipment that has experienced a free-fall arrest.

II. WORKPLACE FALL HAZARD ANALYSIS

In construction, the basic rule for fall hazard control is the "6-Foot Rule," which states that any employee exposed to fall hazards of 6 feet or greater must be protected. In addition, any employee who may be exposed to falling into dangerous equipment must be protected. There are exceptions to this rule. However, as a general matter construction employers should use the 6-foot trigger as a baseline for fall hazard identification.

- Extent and duration of the work
- Amount of material and/or tools involved
- Time employees spend on the access equipment and/ or on the elevated work location
- Weather conditions

The Program Administrator, with the assistance of supervisors, must conduct a fall hazard survey, using the General Work Environment Fall Hazard Assessment form, located in Appendix C, to identify fall hazards upon the initiation of this Program and whenever a new process or equipment has been introduced in the workplace.

- Equipment available on-site
- Condition of surface from which access must be made
- Room available on the access equipment and/or on the elevated work location.

III. FALL HAZARD PROTECTION PLAN

Upon identifying fall hazard(s), the next step is to select the appropriate fall prevention or protection system(s). No single fall protection system provides adequate fall protection for all job activities. The type of system that is the most effective will vary from job to job and from activity to activity. Therefore, each job/activity will be assessed using the Job/Activity Specific

Fall Hazard Assessment form, located in Appendix D, to determine the proper type of fall protection.

The following factors must be considered when selecting fall protection systems:

- The distance of the elevated walking/working surface above lower levels.
- The type of job activities that will require fall protection and the specific requirements of each activity.
- The specific types of equipment and components that will be needed with each fall protection system.
- How much vertical and horizontal movement employees will need to perform each job/activity.
- The environmental conditions (i.e., wind, rain, snow, extreme heat or cold) in which fall protection equipment will be used.
- The potential difficulty of using fall protection systems to perform normal and/or non-routine job activities.
- The need for anchorage points of suitable design and strength.
- The presence of chemical, electrical and welding hazards.
- How to recover or rescue employees from fallen positions.
- The presence of sharp or rough surfaces or edges.

IV. FALL HAZARD PROTECTION REQUIREMENTS

A. GENERAL REQUIREMENTS FOR FALL PROTECTIONS

Unprotected sides and edges

Employees on a walking/working surface with an unprotected side or edge that is 6 feet or more above a lower level must be protected from falling by the use of a guardrail system, safety net system, or a personal fall arrest system.

Aerial lifts/bucket trucks

Aerial lifts include the following types of vehicle-mounted aerial devices used to elevate personnel to job-sites above ground: extensible boom platforms; aerial ladders; articulating boom platforms; and vertical towers. Employees working in an aerial lift that is 6 feet or more above a lower level must wear a personal fall arrest or restraint system with the lanyard attached to the boom or basket (or other appropriate tie-off point).

Portable Ladders

Many falls occur because portable ladders are not placed or used safely. Ladder users are at risk of falling if a ladder is not safely positioned and moves or slips from its supports. The company will provide a training program for employees to recognize hazards related to ladders and the procedures to be followed to minimize these hazards. *See the ADP Ladder Safety Program and the Safe Ladder Use Table at Appendix J for detailed information.*

Accident Investigations

All accidents, regardless of their nature, must be investigated and reported. It is an integral part of any safety program that documentation take place as soon as possible so that the cause and means of prevention can be identified to prevent a reoccurrence.

In the event that an employee falls or there is some other related, serious incident occurring, this Program will be reviewed to determine if additional practices, procedures, or training need to be implemented to prevent similar types of falls or incidents from occurring.

B. SPECIFIC REQUIREMENTS FOR FALL PROTECTION

FLOOR AND WALL OPENINGS Wall openings:

Employees who are positioned on, at, above, or near wall openings where the outside bottom edge of the wall opening is six feet or more above lower levels (and the inside bottom edge of the wall opening is less than 39 inches above the walking/working surface) must be protected from falls by guardrails, safety nets, or personal fall arrest systems.

Floor openings:

Each employee on walking/working surfaces shall be protected from falling through holes (including skylights) more than 6 feet (1.8 m) above lower levels, by personal fall arrest systems, covers, or guardrail systems erected around such holes. Employees must also be protected from tripping in or stepping into or through holes (including skylights) by covers (and also covers will provide protection from objects falling through holes).

AERIAL BOOM LIFTS AND SCISSORS LIFTS There are different rules regarding fall protection for aerial boom lifts and scissors lifts. Wearing harnesses and being tied off is not required in scissors lifts if the employee's feet stay on the floor. Standing on guardrails is not allowed. All guardrails must be in place and the entry point shall be protected with a gate or chains that can withstand the same lateral force as the guardrails (200 pounds minimum).

Workers in aerial boom lifts must wear harnesses and be tied off to appropriate anchors. The tie-off should be located and the lanyard set so that the worker cannot be ejected from the basket. Workers must keep both feet on the floor of an aerial boom li# at all times.

Safe aerial boom li# use includes:

- Only authorized personnel may operate lifts.

- The manufacturer or equivalent must certify any modification.
- The insulated portion must not be altered to reduce its insulating value.
- Test lift controls daily.
- Controls must be clearly marked.
- Brakes must be set and outriggers used.
- Boom and basket load limits must not be exceeded.
- Do not use any devices to raise the employee above the basket floor.

DANGEROUS EQUIPMENT Employees positioned 6 feet or more above dangerous equipment must be protected from falling into or onto the equipment by appropriate means, such as guardrails or personal fall arrest equipment.

C. FALL PROTECTION SYSTEMS

Guardrail Systems:

Requirements for erection and use of guardrail systems include the following:

- The height of the top rail must be 42 inches plus or minus three inches above the walking/working level. When conditions warrant, the height of the top edge may exceed 45 inches provided the guardrail system meets all other design and construction criteria.
- Midrails, screen, mesh or intermediate vertical members must be installed between the top edges of guardrails and walking/working surfaces when there are no walls or parapet walls at least 21 inches high.
- Guardrails must be capable of withstanding a force of at least 200 pounds applied within 2 inches of the top edge in any outward or downward direction at any point along the top edge.
- When 200 pounds of downward force is applied, the top edges of guardrails must not deflect to less than 39 inches above the walking/working level.
- Midrails, screen, mesh or intermediate vertical members must be capable of withstanding a force of at least 150 pounds applied in any downward or outward direction at any point along the midrail or other member.
- Guardrails must have smooth surfaces that will prevent punctures, lacerations and snagging of clothing.
- The ends of top rails and midrails must not overhang terminal posts, unless an overhang would not create a projection hazard.

- Steel and plastic banding cannot be used on top rails or midrails.
- Top and midrails must be at least 1/4 inch nominal diameter or thickness to prevent cuts and lacerations.
- When guardrails are used in hoisting areas, a chain, gate or removable guardrail section must be placed across the access opening when hoisting operations are not taking place.
- When guardrails are used at holes, they must be erected on all unprotected sides or edges.
- When guardrails are used to protect holes that are used to pass materials, not more than two sides can be protected by removable guardrails.
- If wire rope is used for top rails, the rope must be flagged at not more than 6-foot intervals with high-visibility material. Safety Net Systems: Safety net systems and their use must comply with the following provisions:
 - Safety nets must be installed as close as practicable but not more than 30 feet below walking/working surfaces. When nets are used on bridges, the potential fall area from the walking/working surface to the net must be unobstructed.
 - Safety nets must extend away from the outermost projection of the work surface as specified in 29 CFR 1926.502(c)(2).
 - Drop tests must be performed on safety nets by dropping a 400 pound, 30 to 32 inch diameter bag of sand into the net from the highest walking/working surface (but not less than 42 inches).
 - When it is unreasonable to perform a drop test on a net, the employer or designated competent person must certify that the net and net installation is in compliance with OSHA's construction fall protection requirements.
 - Nets must be inspected at least once a week. Defective nets and parts must be removed from service.
 - Materials, scrap pieces, equipment and tools that fall into nets must be removed as soon as possible and at least before the next shift.
 - Net openings must not exceed 36 square inches or be longer than 6 inches on any side.
 - Each safety net must have a border rope with a minimum breaking strength of 5000 pounds.
 - The connections between nets must be as strong as net components and not more than 6 inches apart. Personal Fall Arrest Systems:

All employees in any department or working on any project that will be required to wear a personal fall arrest or restraint system will follow these guidelines:

- A full body harness will be used at all times.
- All personal fall arrest systems will be inspected before each use by the employee.
- Any harness that is deteriorated, bent, damaged, impacted and/or showing excessive wear must be immediately removed from service.
- Personal fall arrest systems must be rigged such that an employee can neither free fall more than 6 feet nor contact any lower level or equipment located more than 6 feet below the walking/working surface.
- Connectors must be drop forged, pressed, or formed steel or are made of equivalent materials and that they have a corrosion resistant finish as well as that all surfaces and edges are smooth to prevent damage to interfacing parts of the system.
- Verify that D-rings and snap hooks have a minimum tensile strength of 5,000 lbs and that the D-rings and snap hooks are proof tested to a minimum tensile load of 3,600 lbs without cracking, breaking, or taking permanent deformation.
- Only shock absorbing lanyards or retractable lanyards in personal fall arrest systems are to be used so as to keep impact forces at a minimum on the body.
- All lanyards will have self-locking snap hooks. Only locking type snap hooks may be used. The maximum free fall distance is not to exceed 6 feet. Consideration must be given to the total fall distance. The following factors can affect total fall distance:
 - Length of connecting means (i.e., lanyard length, use of carabiners, snap hooks, etc.).
 - Position and height of anchorage relative to work platform/ area (always keep above head whenever possible).
 - Position of attachment and D ring slide on the full body harness.
 - Deployment of shock absorber (max 42").
 - Movement in lifeline.
 - Initial position of worker before free fall occurs (i.e., sitting, standing, etc.). Always allow a minimum of 6 feet of clearance above the ground, equipment, etc., at the end of the fall from the fall arrest point.

Positioning Device Systems:
Requirements for these systems and their use are as follows:

- Positioning devices must be rigged such that an employee cannot free fall more than two feet.
- Positioning devices must be secured to an anchorage capable of supporting at least twice the potential impact load of an employee's fall or 3,000 pounds, whichever is greater.

- Connectors must be of drop forged, pressed or formed steel, or made of equivalent materials.
- Connectors must have a corrosion-resistant finish, and all surfaces and edges must be smooth to prevent damage to interfacing parts of this system.
- Connecting assemblies must have a minimum tensile strength of 5,000 pounds.
- Only nylon rope or nylon straps with locking snap hooks are to be used for restraints.
- D-rings and snap hooks must be proof-tested to a minimum tensile load of 3,600 pounds without cracking, breaking or taking permanent deformation.
- Snap hooks must be a locking type snap hook designed and used to prevent disengagement of the snap hook by the contact of the snap hook by the connected member.
Warning Line Systems: A warning line system is a barrier erected on a roof to warn employees they are approaching an unprotected roof edge. It designates an area where roofing work may take place without using a guardrail, personal fall arrest system or safety net. Warning line systems must be installed in accordance with 29 CFR 1926.502(f) and a project-specific program must be developed if a warning line system is to be used.
- The warning line must be erected around all sides of a roof work area.
- When mechanical equipment is not being used, the warning line must be erected not less than 6 feet from the roof edge.
- When mechanical equipment is being used, the warning line must be erected not less than 6 feet from the roof edge that is parallel to the direction of mechanical equipment operation and not less than 10 feet from the roof edge that is perpendicular to the direction of mechanical equipment operation.
- Points of access, material handling areas, storage areas and hoisting areas must be connected to the work area by an access path formed by two warning lines. When the path to a point of access is not in use, a rope, wire, chain or other barricade equal in strength to the warning line must be placed across the path at the point where it intersects the warning line around the work area or the path must be offset in such a way that employees cannot walk directly into the work area.
- Warning lines must consist of ropes, wires or chains and supporting stanchions. The rope, wire or chain must be flagged at not more than 6 foot intervals with high-visibility material, such as ribbon or plastic barrier tape.
- The rope, wire or chain must be rigged and supported in such a way that its lowest point (including sag) is no less than 34 inches from the walking/working surface and its highest point is no more than 39 inches from the walking/ working surface.

- After being erected and having the rope, wire or chain attached, a stanchion must be capable of resisting (without tipping over) a force of at least 16 pounds applied horizontally against it at a position 30 inches above the walking/working surface, perpendicular to the warning line and in the direction of the floor, roof or platform edge.
- The rope, wire or chain must have a minimum tensile strength of 500 pounds. After being attached to the stanchions, the rope, wire or chain must be capable of supporting (without breaking) a load of at least 16 pounds applied horizontally against the stanchions.
- The line must be attached at each stanchion in such a way that pulling on one section of the line will not result in slack being taken up in adjacent sections before the stanchion tips over.
- Employees must not be allowed in the area between a roof edge and a warning line, unless they are performing roofing work there.
- Mechanical equipment on roofs must be used or stored only in areas where employees are protected by a warning line system, guardrail system or personal fall arrest system.

Controlled Access Zones (CAZ):

These zones are used to control access to areas where leading-edge and other operations are taking place without the use of guardrails, safety nets or personal fall arrest systems to protect employees in the area. The following requirements apply:

- CAZ must be defined by control lines or another means that restricts access.
- When control lines are used, they must be erected not less than 6 feet and not more than 25 feet from the unprotected or leading edge, except when erecting precast concrete members.
- When erecting precast concrete members, control lines must be erected not less than 6 feet and not more than 60 feet or half the length of the member being erected (whichever is less) from the leading edge.
- The control line must extend along the entire length of the unprotected or leading edge and must be approximately parallel to the edge. The control line must be connected on each side to a guardrail system or wall.
- When used to control access to areas where overhand bricklaying and related work are taking place, the CAZ must be defined by a control line erected not less than 10 feet and not more than 15 feet from the working edge.
- When used to control access to areas where overhand bricklaying and related work are taking place, the control line must extend for a distance sufficient for the CAZ to enclose all

employees performing this work at the working edge and must be approximately parallel to the edge.

- When used to control access to areas where overhand bricklaying and related work are taking place, additional control lines must be erected at both ends to enclose the zone.
- When used to control access to areas where overhand bricklaying and related work are taking place, only employees engaged in this work are to be permitted in the CAZ.
- The control line must consist of ropes, wires, tapes or equivalent materials and supporting stanchions.
- Each line must be flagged or otherwise clearly marked at not more than 6 foot intervals with high-visibility material, such as ribbon or plastic barrier tape.
- Each line must be rigged and supported in such a way that its lowest point (including sag) is no less than 39 inches from the walking/working surface and its highest point is not more than 45 inches from the walking/working surface. The highest point must be 50 inches when overhand bricklaying operations are being performed.
- Each line must have a minimum breaking strength of 200 pounds.
- On floors and roofs where guardrail systems are not in place prior to the beginning of overhand bricklaying operations, the CAZ must be enlarged, as necessary, to enclose all access points, material handling areas and storage areas.
- On floors and roofs where guardrail systems are in place, only that portion of the guardrail necessary to accomplish that day's work must be removed to allow overhand bricklaying work or leading edge work to take place.

If an employee must access an area within 6 feet of the roof for reasons other than exiting the roof via a ladder or fixed industrial ladder, another employee must monitor that individual and warn him/her of any dangers. If another employee is not available to act as a safety monitor, then the employee must don a full body harness and attach a fall restraint lanyard to an anchor point to prevent reaching the edge of the roof.

Safety Monitoring Systems:

The Program Administrator must designate a competent person as a safety monitor to monitor the safety of other employees in accordance with the following requirements:

- The safety monitor must be able to recognize fall hazards.
- The safety monitor must warn employees when it appears that they are unaware of fall hazards or are acting in an unsafe manner.

- The safety monitor must be on the same walking/working surface and within sight of the employees he or she is monitoring.
- The safety monitor must be close enough to communicate orally with employees.
- The safety monitor must not have other responsibilities that could take his or her attention away from the monitoring function.

Mechanical equipment must not be used or stored in areas where safety monitoring systems are being used to monitor employees engaged in roofing operations on low-slope roofs. No employees other than the employees engaged in roofing work on low-sloped roofs or covered by fall protection plans are allowed in areas where other workers are being protected by safety monitoring systems. Each employee working must be directed to comply with fall hazard warnings from safety monitors.

D. FALL RESCUE PLAN

One of the most frequently overlooked areas of fall protection is to assure that employees who may fall are able to rescue themselves. If they can't, arrangements must be made to provide prompt rescue services.

Considerations for Rescue Planning

There are many variables to consider in rescue planning. The following should be considered carefully in preparing a rescue plan:

- Is the person conscious or unconscious
- What is the body-holding device
- Is the situation likely to be that a person is suspended or is the body being supported by something in addition to the harness, e.g., suspension trauma straps
- Rescues should be completely safe for the rescue team
- The rescue team should be able to communicate with external emergency services without leaving the vicinity of the work-site
- Conduct of rehearsals, practices and exercises
- What communication systems should be used between the person and the rescue team
- Mobile phones, pagers and similar items must not be used in or within 5 meters of any Category 1 or 2 (atmospheric contaminants) confined space
- Is the person uninjured and capable of self rescue
- Is the person injured but still capable of self rescue
- Is the person injured and requiring treatment at height by a member of the rescue team or emergency services

- Can the person be winched up/down, e.g., by a davit/tripod and winch
 - Is the person assisted by a rescue team member who accesses his/her height, e.g., cherry picker, climbing with fall arrest equipment
 - What is the emergency contact information of rescue services available and what are the instructions for summoning immediate assistance
 - Is the rescue equipment immediately available for this job site location (ladders, rescue kits, elevating platforms, tripods, additional harnesses, controlled descent devices, winches, stretcher, etc.)
 - What obstructions are in the way to reach the injured or suspended person
 - How can rescue be completed within 15 minutes of a fall to minimize the risk of further injury or death due to suspension trauma
- Considerations for Rescue Planning – Personnel Requirements
- The number of rescue personnel required for working at heights is dependent on many different aspects including:
- The type of asset
 - The inherent risks associated with the asset
 - The geographical location of the asset
 - The type of work to be undertaken
 - Location of the worker to the exit point
 - Size of the work area
 - Type of rescue equipment being used
 - Size of the exit area

Components of a Rescue Plan

There are many equally important components in a rescue plan including:

- Details of the asset/site
- How the person is to be rescued
- Responsibilities – who will do what
- Equipment required
- Communication systems
- Sequence of events when emergency arises

- Use for rescue or otherwise of external emergency services
- All emergency telecommunications numbers and/or radio frequencies
- Requirement for work crew to proceed with rescue if safe
- Conduct of rehearsals, practices or exercises

After performing a workplace assessment to identify areas where a personal fall arrest system is required, a detailed fall rescue plan must be implemented that includes:

- The activities to be performed by employees;
- The level of mobility required by the user of the fall arrest equipment;
- How rescue workers would get to a fallen employee;
- The rescue equipment needed;
- The workplace conditions; and
- Environmental factors and hazards that the employee may encounter during the specific activity.

The fall rescue plan must include specific information on the type of work being done and the manner in which the rescue is to be performed. The plan must be updated whenever conditions change in the work environment or with the type of equipment being used. *See Appendix E – Fall Rescue Plan.*

V. EQUIPMENT INSPECTION, STORAGE AND MAINTENANCE

All fall protection equipment must be carefully inspected prior to each use and periodically throughout the day. Safety equipment showing any signs of mildew, torn or frayed fabric or fiber, burns, excessive wear, or other damage or deterioration which could cause failure must be permanently removed from service. All fall protection equipment must be properly maintained and stored when not in use. This includes keeping all fall protection equipment dry and out of sunlight, away from caustics, corrosives or other materials that could cause defects.

The following criteria will be utilized to maintain all equipment in good working condition. In addition, attached to this Program are annual inspection checklists for certain equipment used. All equipment must also be inspected, stored, and maintained per manufacturer specifications.

Full Body Harnesses

1) Inspect before each use.

- Closely examine all of the nylon webbing to ensure there are no burn marks, which could weaken the material.

- Verify there are no torn, frayed or broken fibers, pulled stitches, or frayed edges anywhere on the harness.
 - Examine D rings for excessive wear, pits, deterioration, or cracks.
 - Verify that buckles are not deformed or cracked and will operate correctly.
 - Check to see that all grommets (if present) are secure and not deformed from abuse or a fall.
 - A harness should never have additional punched holes.
 - All rivets should be tight, not deformed.
 - Check tongue/straps for excessive wear from repeated buckling.
- 2) Annual inspection of all harnesses will be completed by a competent person; documentation will be maintained on file.
- 3) Storage will consist of hanging the harness in an enclosed cabinet to protect it from damage.
- 4) All harnesses that are involved in a fall must be permanently removed from service.
- Lanyards/Shock Absorbing Lanyards
- 1) Inspect before each use.
- Check lanyard material for cuts, burns, abrasions, kinks, knots, broken stitches and excessive wear.
 - Inspect the snap hooks for hook, locks, and eye distortion.
 - Check carabiner for excessive wear, distortion, and lock operation.
 - Ensure that all locking mechanisms seat and lock properly.
 - Once locked, locking mechanism should prevent hook from opening.
 - Visually inspect shock absorber for any signs of damage, paying close attention to where the shock absorber attaches to the lanyard.
 - Verify that points where the lanyard attaches to the snap hooks are free of defects.
- 2) Annual inspection of all lanyards will be completed by a competent person; documentation will be maintained on file.
- 3) Storage will consist of hanging all lanyards in an enclosed cabinet to protect them from damage.
- 4) All lanyards that are involved in a fall must be permanently removed from service.

Snap Hooks

- 1) Inspect before each use.
- 2) Monthly inspection will be conducted by a competent person; documentation will be maintained on file.
 - Inspect snap hook for any hook and eye distortions.
 - Verify there are no cracks, pitted surfaces, and eye distortions.
 - The keeper latch should not be bent, distorted, or obstructed.
 - Verify that the keeper latch seats into the nose without binding.
 - Verify that the keeper spring securely closes the keeper latch.
 - Test the locking mechanism to verify that the keeper latch locks properly.
- 2) Annual inspection of all snap hooks will be completed by a competent person; documentation will be maintained on file.
- 3) All snap hooks involved in a fall will be destroyed. Self Retracting Lanyards
- 1) Inspect before each use.
 - Visually inspect the body to ensure there is no physical damage.
 - Make sure all back nuts or rivets are tight.
 - Make sure the entire length of the nylon strap is free of any cuts, burns, abrasions, kinks, knots, broken stitches, and excessive wear and retracts freely.
 - Test the unit by pulling sharply on the lanyard to verify that the locking mechanism is operating correctly.
 - If manufacturer requires, make certain the retractable lanyard is returned to the manufacturer for scheduled annual inspections.
- 3) Service all self-retracting lanyards per manufacturer specifications.
- 4) If a fall occurs, replacement all devices are required. Tie-off Adaptors/Anchorages
- 1) Inspect for integrity and attachment to solid surface.
- 2) Annual inspection of all tie offs and anchorages by a competent person; documentation will be maintained on file.
- 3) All tie offs and anchorages involved in a fall must be permanently removed from service.

Horizontal Lifelines

- 1) Inspect before each use for structural integrity of line and anchors.

2) Annual inspection by a competent person; documentation will be maintained on file.
Guardrails

- 1) Temporary systems – A daily visual inspection will be completed by a competent person.
- 2) Temporary systems A complete structural inspection will be completed weekly by a competent person.
- 3) Permanent Systems – An annual structural inspection will be completed by a competent person with future frequency of inspection defined based on conditions/controls present.

Storage and Maintenance of Fall Protection Equipment

- 1) Never store personal fall arrest equipment in the bottom of a tool box, on the ground, or outside exposed to the elements (i.e., sun, rain, snow, etc.).
- 2) Hang equipment in a cool dry location in a manner that retains its shape.
- 3) Clean with a mild, nonabrasive soap, and hang to dry.
- 4) Never force dry or use strong detergents in cleaning.
- 5) Never store equipment near excessive heat, chemicals, moisture, or sunlight.
- 6) Never store in an area with exposures to fumes or corrosive elements.
- 7) Avoid dirt and build up on equipment.
- 8) Never use this equipment for any purpose other than personal fall arrest.
- 9) Once exposed to a fall, remove equipment from service immediately.

VI. EMPLOYEE SAFETY TRAINING

Our company will provide a fall prevention training program for each employee who might be exposed to fall hazards. Any employee required to use a fall arrest system must be trained in the proper use and care of the personal fall arrest system. Training will include:

- When the use of the fall arrest equipment is required.
- How to properly inspect the equipment prior to use.
- The proper methods of donning, adjusting and connecting the equipment.
- The intended function and performance characteristics of each piece of equipment.
- Proper attachment methods and locations on the equipment including compatibility of the snap hooks, D-rings and other connection devices.

- Proper anchoring and tie-off techniques.
- Any unique conditions or hazards of the work environment where the fall arrest equipment will be used.
- The inspection and storage of the equipment.

When the Program Administrator or a supervisor has reason to believe that any affected employee who has already been trained does not have the understanding and skill expected of the employee, the employer must retrain that employee. Retraining is required at least in the following circumstances:

- a) changes in the workplace render previous training obsolete;
- b) changes in the types of fall protection systems or equipment to be used render previous training obsolete; or
- c) inadequacies in an affected employee's knowledge or use of fall protection systems or equipment indicate that the employee has not retained the requisite understanding or skill.

Training will be conducted by a competent person qualified in the following areas:

- a) the nature of fall hazards in the work area;
- b) the correct procedures for erecting, maintaining, disassembling, and inspecting the fall protection systems to be used;
- c) the use and operation of guardrail systems, personal fall arrest systems, safety net systems, warning line systems, safety monitoring systems, CAZs, and other protection to be used;
- d) the role of each employee in the safety monitoring system when this system is used;
- e) the limitations on the use of mechanical equipment during the performance of roofing work on low sloped roofs;
- f) the correct procedures for the handling and storage of equipment and materials and the erection of overhead protection;
- g) the role of employees in fall protection plans;
- h) the requirements contained in 29 CFR Part 1926, Subpart M;
- i) understanding and following all components of this Program and applicable OSHA standards.

A "competent person," as defined by 29 CFR 1926.32(f), is someone "...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 authorization to take prompt corrective measures to eliminate them.”

VII. PROGRAM EVALUATION

Workplace evaluations must be performed periodically and annually by the Program Administrator to ensure that the provisions of this Program are effective. Employees must be interviewed periodically to assess Program effectiveness. In addition to staff interviews, the following criteria will also be used to evaluate the performance of the Program:

- Accident reports and number of accidents.
- Management/staff compliance/questions with program components.

VIII. RECORDKEEPING

Copies of all fall hazard assessments will be maintained by the company for three years.

Initial Program employee safety training records will be maintained by the company for a period of 30 years. Refresher training records will be kept for a period of five years.

Equipment maintenance records, including user inspections of all personal fall protection equipment will be maintained by the company until the particular equipment item is retired.

APPENDIX A – EMPLOYEE ACKNOWLEDGEMENT FORM

The company is firmly committed to the safety of its employees. We will do everything possible to prevent workplace accidents and are committed to providing a safe working environment for you and all employees. Workplace safety is a team effort and everyone at the company must be involved and committed to the Fall Protection Program (“Program”).

By signing this document, I confirm the receipt of the company’s Fall Protection Program for Construction and agree to comply with the policies and procedures contained within the Program and any revisions to it. I also understand that this Program contains an overview of the fall protection rules for the company and is not intended to be an agreement for employment. I understand that my employment is at-will, and that I do not have a contract for employment for any particular length of time nor a guarantee of employment. I also understand that the fall protection rules contained in this Program can be changed at any time at the sole discretion of the company without prior notification.

Employee Name

Employee Signature

Date

APPENDIX B – GLOSSARY OF TERMS

GENERAL

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

Floor Hole – An opening measuring less than 12 inches but more than one inch in its least dimension, in any floor, platform, pavement, or yard which materials but not persons may fall.

Floor Opening – An opening measuring 12 inches or more in its least dimension, in any floor, platform, pavement, or yard, through which a person may fall.

Handrail – A single bar or pipe supported on brackets from a wall or partition, as on a stairway or ramp, to furnish persons with a handhold in case of tripping.

Platform – A working space for persons elevated above the surrounding floor or ground.

Standard Railing – A vertical barrier erected along exposed edges of a floor opening, wall opening, platform, or runway to prevent falls of persons.

Toeboard – A vertical barrier at floor level erected along exposed edges of a floor opening, wall opening, platform, or runway to prevent falls of materials.

Wall Hole – An opening less than 30 inches but more than one inch high, of unrestricted width, in any wall or partition.

Wall Opening – An opening at least 30 inches high and 18 inches wide, in any wall or partition through which a person may fall.

PERSONAL FALL ARREST SYSTEM

Personal Fall Arrest System – A system used to arrest an employee in a fall from a working level. It consists of an anchorage, connectors, and a body harness (the use of a body belt is prohibited as of January 1, 1998). The system may also include a lanyard, deceleration device, lifeline, or suitable combination of these components.

Anchorage – A secure point of attachment for lifelines, lanyards, or deceleration devices, and which is independent of the means of supporting or suspending the employee.

Deceleration Device – Any mechanism, which serves to dissipate a substantial amount of energy during a fall arrest or otherwise limit the energy imposed on an employee during a fall arrest.

Full Body Harness – Straps which may be secured about the employee in a manner that will distribute the fall arrest forces over at least the thighs, pelvis, waist, chest, and shoulders with means for attaching it to other components of a personal fall arrest system. **Lanyard** – A flexible line of rope, wire rope, or strap, which generally has a connector at each end for connecting the body harness to a deceleration device, lifeline, or anchorage.

Lifeline – A component consisting of a flexible line for connection to an anchorage at one end and to hang vertically or for connection to anchorages at both ends to stretch horizontally. This serves as a means of connecting other components of a personal fall arrest system.

Snap hook – A connector comprised of a hook-shaped member with a normally closed keeper, which may be opened to permit the hook to receive an object, and when released, automatically closes to retain the object.

APPENDIX C – General Work Environment Fall Hazard Assessment

Housekeeping

- ☐ Is a documented, functioning housekeeping program in place?
- ☐ Are all worksites clean, sanitary, and orderly?
- ☐ Are work surfaces kept dry or is appropriate means taken to assure the surfaces are slip-resistant?
- ☐ Are all spilled hazardous materials or liquid cleaned up immediately and according to proper procedures?

Walkways

- ☐ Are aisles and passageways kept clear?
- ☐ Are aisles and walkways marked as appropriate?
- ☐ Are wet surfaces covered with non-slip materials?
- ☐ Are holes in the floor, sidewalk or other walking surface repaired properly, covered or otherwise made safe?
- ☐ Is there safe clearance for walking in aisles where motorized or mechanical handling equipment is operating?
- ☐ Are materials or equipment stored in such a way that sharp projections will not interfere with the walkway?
- ☐ Are changes of direction or elevation readily identifiable?
- ☐ Are aisles or walkways that pass near moving or operating machinery, welding operations or similar operations arranged so employees will not be subjected to potential hazards?
- ☐ Is adequate headroom provided for the entire length of any aisle or walkway?
- ☐ Are standard guardrails provided wherever aisle or walkway surfaces are elevated more than 30 inches above any adjacent floor or the ground?
- ☐ Are bridges provided over conveyors and similar hazards?

Floor and Wall Openings

- ☐ Are floor openings guarded by a cover, a guardrail, or equivalent on all sides (except at entrance to stairways or ladders)?
- ☐ Are toeboards installed around the edges of permanent floor openings (where persons may pass below the opening)?
- ☐ Are skylight screens of such construction and mounting that they will withstand a load of at least 200 pounds?
- ☐ Is the glass in the windows, doors, glass walls, etc., which are subject to human impact, of sufficient thickness and type for the condition of use?
- ☐ Are grates or similar type covers over floor openings such as floor drains of such design that foot traffic or rolling equipment will not be affected by the grate spacing?
- ☐ Are unused portions of service pits and pits not actually in use either covered or protected by guardrails or equivalent?
- ☐ Are manhole covers, trench covers and similar covers, plus their supports designed to carry a truck rear axle load of at least 20,000 pounds when located in roadways and subject to vehicle traffic?
- ☐ Are floor or wall openings in fire resistive construction provided with doors or covers compatible with the fire rating of the structure and provided with a self-closing feature when appropriate?

Stairs and Stairways

- ☐ Are standard stair rails or handrails on all stairways having four or more risers?
- ☐ Are all stairways at least 22 inches wide?
- ☐ Do stairs have landing platforms not less than 30 inches in the direction of travel and extend 22 inches in width at every 12 feet or less of vertical rise?
- ☐ Do stairs angle no more than 50 and no less than 30 degrees?
- ☐ Are step risers on stairs uniform from top to bottom?
- ☐ Are steps on stairs and stairways designed or provided with a surface that renders them slip resistant?
- ☐ Are stairway handrails located between 30 and 34 inches above the leading edge of stair treads?
- ☐ Do stairway handrails have at least 3 inches of clearance between the handrails and the wall or surface they are mounted on?
- ☐ Where doors or gates open directly on a stairway, is there a platform provided so the swing of the door does not reduce the width of the platform to less than 21 inches?
- ☐ Where stairs or stairways exit directly into any area where vehicles may be operated, are adequate barriers and warnings provided to prevent employees stepping into the path of traffic?
- ☐ Do stairway landings have a dimension measured in the direction of travel, at least equal to the width of the stairway?

Elevated Surfaces

- ☐ Are signs posted, when appropriate, showing the elevated surface load capacity?
- ☐ Are surfaces elevated more than 30 inches above the floor or ground provided with standard guardrails?
- ☐ Are all elevated surfaces (beneath which people or machinery could be exposed to falling objects) provided with standard 4-inch toeboards?
- ☐ Is a permanent means of access and egress provided to elevated storage and work surfaces?
- ☐ Is required headroom provided where necessary?
- ☐ Is material on elevated surfaces piled, stacked or racked in a manner to prevent it from tipping, falling, collapsing, rolling or spreading?
- ☐ Are dock boards or bridge plates used when transferring materials between docks and trucks or rail cars?

Appendix D – Job/Activity Specific Fall Hazard Assessment

FALL PROTECTION PROGRAM

Designation: _____ Related Operating Procedures Reviewed: Yes No
 Location: _____ Location Marked and Entry Controlled: Yes No
 Date Assessed: _____

Fall Hazard Assessment Checklist

| | | |
|---|-----|----|
| 1. Can an employee enter the area without restriction and perform work? | Yes | No |
| 2. Are fall prevention systems such as cages, guardrails, toeboards, manlifts in place? | Yes | No |
| 3. Have slipping and tripping hazards been removed or controlled? | Yes | No |
| 4. Have visual warnings of fall hazards been installed? | Yes | No |
| 5. Can the distance a worker could fall be reduced by installing platforms, nets, etc.? | Yes | No |
| 6. Are any permanently installed floor coverings, gratings, hatches, or doors missing? | Yes | No |
| 7. Does the location contain any other recognized safety and or health hazards? | Yes | No |
| 8. Is the space designated as a Permit Required Confined Space? | Yes | No |
| 9. Have anchor points been designated and load tested? | Yes | No |

Assessment Information: (indicate specifics with initials)

| Initials | Hazard | Remarks/Recommendations |
|----------|--|-------------------------|
| | Total potential fall distance: | |
| | Number of workers involved: | |
| | Frequency of task: | |
| | Obtainable anchor point strength: | |
| | Required anchor point strength: (not less than 5000 lbs) | |

Additional Requirements:

Potential environmental conditions that could impact safety:

| Initials | Condition | Remarks/Recommendations |
|----------|-----------|-------------------------|
| | | |
| | | |

| | | |
|--|------------|-------------------------|
| Possible required structural alterations: | | |
| Initials | Alteration | Remarks/Recommendations |
| | | |
| | | |
| Possible task modification that may be required: | | |
| Initials | Task | Remarks/Recommendations |
| | | |
| | | |
| Breakdown of vertical and horizontal movement: (sketch out work task): | | |

| | | |
|------------------------|-------------|-------------------------|
| Training requirements: | | |
| Initials | Requirement | Remarks/Recommendations |
| | | |
| | | |
| | | |
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| | | |

| Personal protective equipment required: | | |
|---|-------------|-------------------------|
| Initials | Requirement | Remarks/Recommendations |
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☐ Approved **AUTHORIZATION**

I certify that I have conducted a Fall Hazard Assessment of the above designated location and have detailed the findings of the assessment on this form. * Further detailed on attachment: Yes No

Name: _____ Signature: _____

Title: _____ Date: _____ Time: _____

ASSESSMENT FORM RETENTION INFORMATION

Permanent Retention _____ File: _____ Location: _____

Date Filed: : _____ Filed By: _____

ATTACHMENTS

Yes, see following pages No

Appendix E – Fall Rescue Plan

Date: _____
Location: _____
Job Description: _____

| | | |
|---|--|---|
| <p>Will someone see it happen?</p> <p><input type="checkbox"/> Co-workers <input type="checkbox"/> Other trades <input type="checkbox"/> Plant personnel <input type="checkbox"/> Public</p> <p>Contacts Rescuer(s) _____ _____ _____</p> <p>Method of contact</p> <p><input type="checkbox"/> PA <input type="checkbox"/> Verbal/Face to face <input type="checkbox"/> Radio Channel: _____ <input type="checkbox"/> Phone Number: _____ <input type="checkbox"/> Other _____</p> <p>Is information available?</p> <p><input type="checkbox"/> Emergency phone number <input type="checkbox"/> Site address <input type="checkbox"/> Directions and access for rescuers</p> | <p>How will rescue workers get to fallen worker?</p> <p><input type="checkbox"/> Ladder <input type="checkbox"/> Keys to building and roof <input type="checkbox"/> Elevator <input type="checkbox"/> Pull worker through window or balcony <input type="checkbox"/> Pull worker up to roof <input type="checkbox"/> Climb/rappel down the building <input type="checkbox"/> Aerial equipment from the ground <input type="checkbox"/> Suspended access equipment</p> <p>Rescue Equipment Needed</p> <p><input type="checkbox"/> Ladder <input type="checkbox"/> Block & Tackle <input type="checkbox"/> Rescue Pole <input type="checkbox"/> First Aid Kit <input type="checkbox"/> Rescue Rope <input type="checkbox"/> Life Ring <input type="checkbox"/> Spider <input type="checkbox"/> Work Vest <input type="checkbox"/> Scaffold <input type="checkbox"/> (Cutting Device) <input type="checkbox"/> Stokes Litter <input type="checkbox"/> Alternative Lifting & Lowering Device</p> <p>Location of Equipment:</p> <p><input type="checkbox"/> Job Site <input type="checkbox"/> Gang Box <input type="checkbox"/> Tool House <input type="checkbox"/> _____</p> | <p>Critical Rescue Factors</p> <p>Anchor Point _____ _____ _____ Landing Area _____ _____ _____</p> <p>Rescue Obstructions/Hazards:</p> <p><input type="checkbox"/> Working alone <input type="checkbox"/> Language barrier <input type="checkbox"/> Wind <input type="checkbox"/> Unusual feature of building or structure <input type="checkbox"/> No 911 area <input type="checkbox"/> No emergency services nearby <input type="checkbox"/> Distance from high rescue teams <input type="checkbox"/> Other hazards</p> <p>Who will report worker's condition after a fall? _____ _____ _____</p> |
| <p>Check for Yes</p> <p><input type="checkbox"/> Have alternatives to using fall arrest equipment been considered? <input type="checkbox"/> Has rescue equipment been inspected and found in good shape? <input type="checkbox"/> Is equipment adequate for the rescue plan (weight ratings, length, connection type, etc.)? <input type="checkbox"/> Have communication devices been identified, located, & tested? <input type="checkbox"/> Are all rescuers familiar with the use of the rescue equipment? <input type="checkbox"/> If working over water, is there a boat available?</p> | | <p>Comment</p> |

Appendix F – Full Body Harness

Annual Inspection Checklist

Harness Model/Model Name: _____

Serial Number: _____ Lot Number: _____

Date of Manufacture: _____ Date of Purchase: _____

| General Factors | Acceptance/Rejected | Comments |
|---|----------------------|----------|
| Hardware: Includes D-rings, buckles, keepers and back pads. Inspect for damage, distortion, sharp edges, burrs, cracks and corrosion. | Accepted Rejected | |
| Webbing: Inspect for cuts, burns, tears, abrasions, frays, excessive soiling and discoloration. | Accepted Rejected | |
| Stitching: for pulled, loose or cut stitches, abrasion, burns/heat/chemical exposure | Accepted Rejected | |
| Labels: Inspect, making certain all labels are securely held in place and are legible. | Accepted Rejected | |
| Manufacturer's Recommendations: During all regularly scheduled inspections, review the manufacturer's recommendations for all additional requirements. | Accepted Rejected | |
| Other: | Accepted Rejected | |
| Overall Disposition | | |

Inspected By: _____ Date Inspected: _____

Appendix G – Lanyards

Annual Inspection Checklist

Lanyard Model Name: _____

Serial Number: _____ Lot Number: _____

Date of Manufacture: _____ Date of Purchase: _____

| General Factors | Acceptance/Rejected | Comments |
|---|----------------------|----------|
| Hardware: (Includes snap hooks, carabiners, adjusters, keepers, thimbles and D-rings), Inspect for damage, distortion, sharp edges, burrs, cracks and corrosion. | Accepted Rejected | |
| Webbing: Inspect for cuts, burns, tears, abrasions, frays, excessive soiling and discoloration. | Accepted Rejected | |
| Stitching: Inspect for pulled or cut stitches | Accepted Rejected | |
| Synthetic Rope: Inspect for pulled or cut yarns, burns, abrasions, knots, excessive soiling and discoloration | Accepted Rejected | |
| Energy Absorbing Component: Inspect for elongation, tears and excessive soiling. | Accepted Rejected | |
| Labels: Inspect, making sure all labels are securely in place and are legible. | Accepted Rejected | |
| Manufacturer's Recommendations: During all regularly scheduled inspections, review the manufacturer's recommendations for all additional requirements. | Accepted Rejected | |
| Overall Disposition | | |

Inspected By: _____ Date Inspected: _____

Appendix H – Snap hooks/Carabiners

Annual Inspection Checklist

Hook/Carabiner Model Name: _____

Serial Number: _____ Lot Number: _____

Date of Manufacture: _____ Date of Purchase: _____

| General Factors | Acceptance/Rejected | Comments |
|---|----------------------|----------|
| Physical Damage: Inspect for cracks, sharp edges, burrs, deformities and locking operations. | Accepted Rejected | |
| Excessive Corrosion: Inspect for corrosion, which affects the operation and/or strength. | Accepted Rejected | |
| Markings: Inspect and make certain marking(s) are legible | Accepted Rejected | |
| Other: | Accepted Rejected | |
| Other: | Accepted Rejected | |
| Manufacturer's Recommendations: During all regularly scheduled inspections, review the manufacturer's recommendations for all additional requirements. | Accepted Rejected | |
| Overall Disposition | | |

Inspected By: _____ Date Inspected: _____

Appendix I - Self-Retracting Lanyard/Lifeline

Annual Inspection Checklist

Self-Retracting Lanyard/Lifeline Model Name: _____

Serial Number: _____ Lot Number: _____

Date of Manufacture: _____ Date of Purchase: _____

| General Factors | Acceptance/Rejected | Comments |
|---|----------------------|----------|
| Hardware: Inspect for activation (rupture of red stitching, elongated indicator, etc.) | Accepted Rejected | |
| Screws/Fasteners: Inspect for damage and make certain all screws and fasteners are tight. | Accepted Rejected | |
| Housing: Inspect for distortion, cracks and other damage. Inspect anchoring loop for distortion or damage. | Accepted Rejected | |
| Lanyard/Lifeline: Inspect for cuts, burns, tears, abrasion frays, excessive soiling and discoloration. | Accepted Rejected | |
| Locking Action: Inspect for proper lock-up brake mechanism. | Accepted Rejected | |
| Retraction/Extension: Inspect spring tension by pulling lanyard out fully and allowing to retract (lifeline must be taut with no slack). | Accepted Rejected | |
| Hooks/Carabiners: Inspect for physical damage, corrosion, proper orientation and markings. | Accepted Rejected | |
| Labels: Inspect, making sure all labels are securely in place and are legible. | Accepted Rejected | |
| Manufacturer's Recommendations: During all regularly scheduled inspections, review the manufacturer's recommendations for all additional requirements. | Accepted Rejected | |
| Overall Disposition | | |

Inspected By: _____ Date Inspected: _____

Appendix J – Safe Ladder Use Table

| Step | Safe Ladder Use |
|------|---|
| 1 | Choose the right ladder for the task--the proper type and size, with a sufficient rating for the task. |
| 2 | <p>Check the condition of the ladder before climbing.</p> <ul style="list-style-type: none"> • Do not use a ladder with broken, loose, or cracked rails or rungs. • Do not use a ladder with oil, grease, or dirt on its rungs. • The ladder should have safety feet. |
| 3 | <p>Inspect the ladder every day, prior to use, for the following problems:</p> <ul style="list-style-type: none"> • Rail or rung damage • Broken feet • Rope or pulley damage • Rung lock defects or damage • Excessive dirt, oil, or grease <p>If the ladder fails inspection, it must be removed from service and tagged with a "Do Not Use" sign.</p> |
| 4 | Place the ladder on firm footing, with a four-to-one (4:1) pitch. |
| 5 | <p>Support the ladder by:</p> <ul style="list-style-type: none"> • Tying it off; • Using ladder outrigger stabilizers; or • Have another worker hold the ladder at the bottom. <p>If another worker holds the ladder, they must:</p> <ul style="list-style-type: none"> • Wear a hard hat; • Hold the ladder with both hands; • Brace the ladder with their feet; and • Not look up. |
| 6 | Keep the areas around the top and bottom of the ladder clear. |
| 7 | Extend the top of the ladder at least 36 inches (3 feet) above the landing. |
| 8 | <p>Climb the ladder carefully - facing it - and use both hands (use three points of contact at all times).</p> <ul style="list-style-type: none"> • Use a tool belt or hand-line to carry material to the top or bottom of the ladder. • Wear shoes in good repair with clean soles. |

Appendix K – Training Attendance Sheet

FALL PROTECTION PROGRAM

Date: _____

Instructor: _____

Training A/V Materials: _____

| Name | Department |
|------|------------|
| 1. | |
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OSHA 29 CFR 1910.25, 1910.26, 1910.27 – Ladder Safety

SCOPE AND APPLICATION

The purpose of this program is to provide information to assist in the selection, care, and safe use of portable ladders. This program establishes the minimum requirements for the construction, care, and use of ladders used in and about the place of employment. OSHA references: (29 CFR 1910.25, 1910.26, and 1910.27).

Our Ladder Safety program contains the following elements:

- Assignment of Responsibilities
- Selection of Ladders
- Inspection of Ladders
- Use of Ladders
- Training
- Program Audit
- Recordkeeping

ASSIGNMENT OF RESPONSIBILITIES

Management is responsible for providing ladders that are constructed and designed to meet the needs of the jobs in which the use of portable ladders is required. In addition, management is responsible for providing training to employees in the proper selection, inspection, use, and maintenance of ladders used in the workplace.

The Program Administrator for our Ladder Safety Program is: Daniel Stone

The Program Administrator is responsible for overseeing the use of this program and ensuring that employees understand the risk factors associated with the selection and use of portable ladders.

In addition, the Program Administrator will:

- Conduct periodic ladder inspections
- Ensure employee safety training
- Ensure the company has the right ladder(s) that are constructed and designed to meet the needs of the jobs where portable ladder use is required.

The Program Administrator is responsible for overseeing the proper use of ladders in the workplace and ensuring all ladders are free from defects and all are working properly. He/ She is also responsible for ensuring that ladders are inspected on a regular basis and are properly stored and maintained. If a ladder is damaged, the supervisor is responsible for ensuring the removal of the ladder from the workplace.

Employees are responsible for following company procedures for the safe use, storage, inspection, and maintenance of ladders. They are also responsible for inspecting ladders for defects or possible hazards prior to use, reporting any unsafe conditions related to the ladders or ladder use to their supervisors and tagging any defective ladder as out of service. Employees must also attend tool box meetings and/ or safety training sessions.

SELECTION OF LADDERS

| Ladder Type | Duty Rating | Description |
|-------------|-------------|------------------------------------|
| Type 1A | 300 lbs. | Extra-heavy-duty industrial ladder |
| Type 1 | 250 lbs. | Heavy-duty industrial ladder |
| Type 2 | 225 lbs. | Medium-duty commercial ladder |
| Type 3 | 200 lbs. | Light-duty household ladder |

INSPECTION OF LADDERS

Employees will inspect the ladder prior to use. If a ladder tips over, immediate inspection is required. The inspection must include the following:

1. Inspection for side rail dents or bends or excessively dented rungs
2. Check all rung-to-side-rail connections
3. Check hardware connections
4. Check rivets for shear
5. Look for missing, damaged or loose components
6. Carefully check all moving components such as spreaders, extension ladder locks and ropes.

In addition, the department supervisor or designee will inspect ladders for visible defects on a semi-annual basis and after any incident that could affect their safe use. The person performing the semi-annual inspection will complete the Portable Ladder Inspection Checklist located in Appendix A of this program.

Frequently lubricate locks, wheels, pulleys, and other bearings.

It is not permissible to paint ladders with an opaque material. It is permissible to coat ladders that are exposed to the weather with a transparent protective material to prevent splintering caused by weathering.

Repair of ladders to manufacturer specifications is normally not feasible. Throw away all broken ladders. Before disposal, any ladder with a defect must be tagged or marked as “Dangerous, Do Not Use.”

Ladder Storage

Store ladders where they are protected from the damaging effects of weather.

When not in use, store ladders in a designated location out of direct sunlight and not exposed to harmful interior/exterior elements that may cause decay/damage. Never store materials on a ladder. Store straight ladders and extension ladders in storage racks. Be sure that ladders are secured when in transit. Vibration and bumping against other objects may cause damage.

USE OF LADDERS

A) Ladder Selection

Choose a ladder that is capable of supporting the load you intend on placing it under by checking the product information label. (Be sure to include the user’s body weight.)

Choose a ladder of the correct length to do the job. A ladder that is too long or too short will force you to overreach, adversely affecting your balance, causing a hazardous condition.

Maximum ladder lengths allowed:

Step ladders - 20 feet

Single-section portable ladders - 30 feet

Two-section ladders: wooden - 60 feet; metal - 48 feet

Metal ladders having more than two sections - 60 feet

Painters’ ladders - 12 feet

Do not use a metal ladder for any electrical work or other tasks in the vicinity of energized electrical lines.

B) Ladder Placement

Always check for potential electrocution hazards before positioning any kind of ladder.

- When setting up a ladder, maintain a proper angle by placing the base a distance from the vertical wall equal to one-fourth the working length of the ladder.
- Set the ladder base section on a secure footing that is firm, level, and free of debris and other materials. Do not use a ladder that wobbles or leans to the left or right of center. Do not place ladders on top of boxes or other unstable bases to gain additional height. Secure ladders placed on uneven footing against displacement.

- Do not use ladders on slippery surfaces unless secured or provided with slip-resistant feet to prevent accidental displacement. Slip-resistant feet are not a substitute for care in placing, lashing, or holding a ladder that is used on a slippery surface.
- Secure ladders against accidental displacement by workplace activities or traffic in locations such as doorways, halls, or other similar locations. Lock the door, have someone stand guard, or erect a barricade around the work area to keep the activities and traffic away from the ladder.
- Support the top of a non-self-supporting ladder with the two rails supported equally, unless it is equipped with a single support attachment.
- When using a ladder to access a high landing, extend the top of the ladder at least three feet above the edge of the landing. If this is not possible, then secure the top of the ladder to a rigid support that will not deflect and a grabrail or other device provided to help the user get on and off the ladder.

Do not use a ladder as a horizontal platform, runway or scaffold, or for any purpose other than that for which the ladder is designed.

C) Ladder Climbing

- Always face the ladder when climbing up or down.
- Do not get on or off a ladder from the side or back.
- Allow only one person at time on a ladder.
- 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.
- Do not carry any object or load that could cause you to fall or lose your balance.
- When performing work on a ladder, keep your body aligned with the center of the steps/rungs to avoid extreme reaching or side loading. Do not lean backwards. • Do not try to move, shift or extend a ladder while it is in use. If you feel sick or dizzy while climbing or standing on a ladder, do not try to climb down in a hurry. Drape your arms around the rungs and rest your head against the ladder until you feel better. Then climb down slowly.

Adhere to the following procedure to prevent ladder accidents:

- Place ladder on a clean slip free level surface.
- Fully open the legs of a stepladder and lock the spreaders.
- Do not use a folded stepladder as a straight ladder by leaning it against a wall or other support.
- Do not climb higher than the third rung from the top on straight or extension ladders or the second tread from the top on stepladders.

- The ladder should reach a minimum of three feet above the “point of support.” Properly secure the ladder at this point.
- Never allow more than one person on a ladder.
- Use three point contact while climbing to ensure that the worker’s center of gravity remains within the side rails.
- Use carriers and tool belts to carry objects up a ladder.
- Do not lean out from the ladder in any direction.
- Do not allow others to work under a ladder in use.
- Do not use a ladder or stepladder if there is a missing or a weakened, broken or otherwise defective rung or tread, or a broken or defective rail.
- Do not use a metal ladder and or ladder reinforced with wire in the vicinity of any electrical conductor or of any electrified equipment or apparatus. Such use may result in the user receiving an electric shock.
- Safety feet are required. Replace the ladder if the feet are damaged or missing.
- Do not use ladders as planks to make a scaffold. Never use a ladder in a horizontal position as a platform or runway.
- Do not use ladders if under medication.
- Do not use ladders if bad weather is pending or exists. Do not use ladders in doorways or other high traffic areas. If a ladder must be used near a door or high traffic area, make sure the door is locked and there is a spotter present.
- Do not straddle the front and back of a stepladder
- Do not stand on the pail shelf of a stepladder.

TRAINING

Train all employees prior to portable ladder use to recognize hazards and procedures to minimize hazards. At a minimum, the following training must be covered:

- The recognition of possible hazards associated with ladder use;
- Inspection, maintenance and storage procedures;
- The proper selection, use and placement of ladders; and
- The maximum intended load capacities of ladders used. Retrain employees as necessary to maintain their understanding and knowledge on the safe use of ladders.

PROGRAM AUDIT

The Program Administrator will conduct a periodic review of this program to ensure ladders are properly inspected, used and maintained.

RECORDKEEPING

The Program Administrator will maintain a copy of all ladder inspection reports and a copy of all training records.

Appendix A – Portable Ladder Inspection Checklist

Date of Inspection: _____ Name of Inspector: _____

Department: _____

Ladder Identification: _____

Type of Ladder: ☐ Extension ☐ Step

Construction of Ladder: ☐ Wood ☐ Metal ☐ Fiberglass

| General Condition | OK | Needs Repair |
|--|--------------------------|--------------------------|
| Loose steps or rungs (loose if can be moved by hands) | <input type="checkbox"/> | <input type="checkbox"/> |
| Loose nails, screws, bolts, or other pieces | <input type="checkbox"/> | <input type="checkbox"/> |
| Cracked, split, or broken uprights, braces, steps or rungs | <input type="checkbox"/> | <input type="checkbox"/> |
| Slivers on uprights, rungs or steps | <input type="checkbox"/> | <input type="checkbox"/> |
| Rungs/steps missing | <input type="checkbox"/> | <input type="checkbox"/> |
| Free from grease, oil or other slipper material | <input type="checkbox"/> | <input type="checkbox"/> |
| Wooden parts free from splinters, cracks, decay | <input type="checkbox"/> | <input type="checkbox"/> |
| Movable parts operate freely | <input type="checkbox"/> | <input type="checkbox"/> |
| Damaged or worn non-slip bases | <input type="checkbox"/> | <input type="checkbox"/> |
| Rails free from cracks/splitting | <input type="checkbox"/> | <input type="checkbox"/> |

Stepladders

| | | |
|--------------------------------|--------------------------|--------------------------|
| Wobbly | <input type="checkbox"/> | <input type="checkbox"/> |
| Loose or bent hinge spreaders | <input type="checkbox"/> | <input type="checkbox"/> |
| Broken stop on hinge spreaders | <input type="checkbox"/> | <input type="checkbox"/> |
| Sharp edges on spreaders | <input type="checkbox"/> | <input type="checkbox"/> |

Extension Ladders

| | | |
|--|--------------------------|--------------------------|
| Loose, broken or missing extension locks | <input type="checkbox"/> | <input type="checkbox"/> |
| Defective locks that do not sit properly when ladder is extended | <input type="checkbox"/> | <input type="checkbox"/> |
| Frayed or worn rope | <input type="checkbox"/> | <input type="checkbox"/> |
| Single section ladders do not exceed 30 feet in length | <input type="checkbox"/> | <input type="checkbox"/> |
| Two-section ladders do not exceed 48 feet in length for metal ladders and 60 feet in length for wood ladders | <input type="checkbox"/> | <input type="checkbox"/> |
| Ladders with more than two sections do not exceed 60 feet in length | <input type="checkbox"/> | <input type="checkbox"/> |

Comments

If repaired, date repaired and returned to service: _____

Appendix B – Training Attendance Sheet
Ladder Safety Training

29 CFR 1910.25, 1910.26 and 1910.27

Date: 1/10/2018

Instructor:

Training A/V Materials:

| NAME | DEPARTMENT |
|------|------------|
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Driver Safety Program

SCOPE AND APPLICATION

The purpose of this guideline is vehicle operator safety and the prevention of vehicle accidents. The primary focus is on drivers of company-provided vehicles or personal vehicles used on company business such as cars, SUVs, minivans and standard pickup trucks. Secondly this document considers the incidental or episodic drivers of company vehicles (pool cars, vehicles used by maintenance personnel or warehouse staff).

ADP has a Fleet and Driver Safety Program for companies with professional drivers and/or highly specialized or large vehicles that require greater review of driver competency and demands of regulatory agencies in federal and state government.

ASSIGNMENT OF RESPONSIBILITIES

Daniel Stone has been assigned as Program Administrator. Management: is responsible for ensuring that driver safety policies and procedures are established and enforced consistently. Management is responsible for providing safe equipment free from obvious defect and damage and providing training and information to employees.

Supervisors are responsible for ensuring employees follow proper procedures, training employees in vehicle and driver safety procedures and best practices, and ensuring vehicles and equipment are maintained in proper working order.

Employees are responsible for following all company procedures and guidelines established in this document, and the safe operation of all company vehicles.

PERSONAL VEHICLES ON COMPANY BUSINESS

The company can authorize employees to use a personal vehicle to conduct company business if required as part of their normal job duties. To do so, employees must review and sign the company's Personally-Owned Vehicle Business Agreement.

OPERATING COMPANY-OWNED OR LEASED VEHICLES

Some employees are required to operate vehicles owned or leased by the company. Some employees have an authorized business reason to operate personally-owned vehicles as a part of their daily routine (see above). The following operating guidelines are required for drivers of company vehicles but are applicable to private vehicle driving as well:

1. The most important part of a motor vehicle is the operator. A driver with the proper attitude will be courteous to other drivers, pedestrians, and will obey all traffic laws.
2. Drivers must be familiar with and obey all laws, codes, and regulations of the state where the vehicle is operated.
3. No employees may operate any vehicle under the influence of alcohol, illegal drugs, chemical substances, or medications or drugs that could impair safe operation of the vehicle.

4. Drivers must possess a valid operator's license for the state in which they are working. The type of license must be appropriate for the type of vehicle being operated.
5. Drivers must provide a copy of their current driver's licenses to management as verification of their driving record.
6. Drivers who receive a traffic citation for a moving or a stationary violation must report the citation to their supervisor immediately and within one business day.
7. Drivers must notify management immediately and within one business day, if they lose their driver's license through lapse or penalty, or if their driving privileges have been suspended or revoked in any state.
8. Repeated traffic convictions, or failure to report traffic accidents or convictions, may result in disciplinary action or termination of authorization to operate vehicles for company business.
9. Drivers must report all accidents to management immediately and within 24 hours, regardless of the extent of the damage.
10. Drivers of company-owned vehicles are responsible for maintaining the vehicle in a clean and orderly manner.
11. Drivers are forbidden from wearing headphones, headphone radios, or other such devices that might impair their ability to hear surrounding conditions.
12. Drivers may not give rides to hitchhikers or strangers.
13. Drivers must check their vehicles daily before each trip, and check the vehicles visually each time before driving. Drivers must check lights, tires, brakes, and steering in particular. An unsafe vehicle should not be operated until repairs are made.
14. Engaging in distracting activities while driving is prohibited, even when in slow-moving traffic.

RIDERS

Company-owned vehicles are primarily for the use of company personnel. Exceptions must be approved by management and will include transporting clients or prospective clients. Family members may also be included if personal use of the company vehicle is authorized. Riding as a passenger on equipment is prohibited unless the equipment has the capacity to transport personnel safely (i.e., jump seats, operator chairs, and seats).

VEHICLE SECURITY

All company-owned vehicles must be locked and secured when unoccupied or not in use.

SAFETY BELTS

State statutes require seat belt use when operating a motor vehicle. It is mandatory that all employees wear seat belts while driving or riding in performance of job duties.

CELLULAR TELEPHONES, "SMARTPHONES," AND OTHER ELECTRONIC COMMUNICATION DEVICES

The use of cell phones, "smartphones," and other electronic communication devices while driving is an undeniable source of driver distraction that has caused serious accidents. Various states and local jurisdictions have enacted laws restricting or prohibiting cell phone use while driving. Our policy recognizes the sometimes necessary business or personal use of these devices but restricts their use as follows:

- Employees who have access to a cellular telephone while operating a vehicle should remember that their number one priority is driving safely and obeying the rules of the road. Cell phones should be used in the following manner:

1. To place a call, find a safe place to pull off of the roadway.
2. To receive a call while driving, let the call go to voice mail, then return the call when safely off the road.

- Alternatively, drivers are permitted to use phones that are specifically designed and configured to allow hands-free listening and talking to accept calls while driving. Long, detailed, or distracting conversations should be avoided. Drivers using hands-free telephones to place or receive calls must still find a safe place to pull off of the roadway. This alternative does not apply if using a cell phone while driving is prohibited by state law or local ordinance.

- Under no circumstances is it permissible to email, text, "tweet," search on the internet, access social media, or use any other cell phone application while driving.

All employees are expected to follow applicable state or federal laws or regulations regarding the use of cell phones at all times.

DRIVER TRAINING

All new drivers, whether they are new hires or non-driving employees being assigned to driving jobs, should be treated as new drivers.

- Proper training and orientation: This is essential to the success of new drivers. It is illogical to expect high performance from an employee who has had no instruction in what is expected of him or her.
- Duties of the Job: The new driver should become thoroughly acquainted with the duties of the job. Each driver should be instructed in, and become familiar with, company policy, rules and regulations regarding safety and should be trained in proper defensive driving techniques as well as company rules and regulations for handling equipment.

- **Testing:** For the drivers covered by this program, a written examination and a road test is not normally required. If there are specialty vehicles that will be used or routes with difficult conditions or unusual hazards, then a written and road test should be developed and used. Road testing should be done by a supervisor or a senior driver.
- **Routes:** Drivers should also be trained in the selection of safe routes to avoid high traffic congestion and crime activity. A direct correlation can frequently be detected between accident frequency and route patterns.
- **Company Required or Provided Training:** An ongoing safety training program includes all drivers. Safety meetings, safety posters, bulletins and newsletters are some of the media to keep drivers informed and up-to-date on driving techniques.
- **Vehicle Inspection:** In addition to the training listed above, the drivers will be trained in the proper inspection procedure for vehicles used.

DRIVER SUPERVISION

A supervisor's attitude toward safe driving will greatly affect the attitude and driving performance of those responsible to him/her.

- Supervisors should be held accountable for safety performance in their areas of responsibility.
- Supervision should be provided in terms of proper and safe job performance.
- Lines of communication between management and drivers should be kept open.
- It is often advisable to provide specialized training for supervisors in driver safety.

ACCIDENT INVESTIGATION AND RECORDS

It is essential that each driver and supervisor be properly instructed in procedures to follow in case of an accident, including the proper completion and submission of accident reports and supervisor's reports of accidents.

- Report all accidents, no matter how small, to management immediately, and within 24 hours.
- Always call law enforcement officials to report an accident, no matter how minor.
- An accident report should be completed in duplicate by the driver and submitted to the supervisor.
- In addition to the accident report completed by the driver involved, a supervisor's report of accident should be completed by the driver's immediate supervisor. The supervisor should determine the root cause of the accident and make appropriate recommendations to prevent similar accidents in the future.

- The establishment of a procedure to review accidents, determine their cause and provide recommended corrective action is of prime importance if future losses are to be controlled.

MAINTENANCE

Mechanical failures, while accounting for a small percentage of vehicle accidents, can lead to severe accidents. It is company policy to have a preventive maintenance program for company-owned vehicles.

An effective preventive maintenance (PM) plan will be established. Guidance may be obtained from the equipment manufacturer. Company policy is that the PM program meets or exceeds the manufacturer's requirements.

Maintenance records should be kept for each piece of equipment.

Appendix A – Sample Management Statement Letter

TO ALL EMPLOYEES:

We have decided to initiate a safety program to improve driver safety within our company. We fully recognize that you play a key part in our mutual effort to reduce losses involving vehicles.

In order to assist you in doing a better job, we are initiating a Driver Safety Program designed to promote safety awareness in the part each of us play in a continuing accident prevention program.

I am personally taking charge of this safety program to promote more effective results. _____ will be responsible for carrying out the details of the program and will assist each of you in performing your job safely.

I solicit your help and want you to be constantly alert to the hazards of your job, follow instructions, and avoid the "thoughtless acts" that might involve you or your fellow workers in an accident.

Do not hesitate to bring safety suggestions to your supervisor. We cannot fix the safety problem alone, but with your help, we can do it.

A Driver Safety Summary will be forthcoming to explain the details of our safety program.

Everyone benefits when we stop accidents.

Sincerely,

Signature

Title

1/10/2018

Date

Appendix B – Sample Driver Safety Summary

TO ALL EMPLOYEES:

We want each of you to know and understand our company's position on driver safety.

Motor vehicle accidents introduce the possibility of injury to you and the general public and cost our company money. We, as a company, are counting on your support in helping control and reduce motor vehicle accidents. We have established the following guidelines so that we may all understand what our company's position is, and all work together to reduce motor vehicle accidents.

Authorized Use of Company Vehicle:

Company vehicles are provided for business use, unless prior permission is received from management for other-than-business use. Only the assigned operators can operate the vehicle, and use of the vehicle by non-employees and family members is not allowed, unless prior authorization is received.

Accident Reporting Procedures:

Each accident, no matter how small, must be immediately reported to your supervisor. Accident reporting material has been provided for each vehicle. Each driver should review this material and take the necessary reporting steps in the event of an accident.

Driver Discipline:

All drivers must review and follow the company's Driver Safety Program and the rules established in the Program. Failure to follow the Program may result in disciplinary action or loss of driving privileges.

Thank you for your support.

Sincerely,

Signature

Title

Date

Hot Work Safety Program

I. Introduction

Our company is firmly committed to the safety of our employees. Welding, cutting, and brazing are hazardous activities that pose a unique combination of both safety and health risks. Protecting employees from welding, cutting, and brazing hazards involves both understanding the hazards and implementing the appropriate engineering, administrative or work practice, and personal protective equipment (PPE) controls.

II. Scope and Application

The purpose of this program is to prevent property loss, injuries, and illnesses associated with welding, cutting, and brazing operations. Employees are required to comply with the guidelines set forth.

Federal and State OSHA covers many aspects of welding, cutting, and brazing in other standards such as confined spaces, compressed gases, fire and electric, and PPE. This program will also briefly reference these additional concerns.

III. Definitions

A. Designated Area A location designed for, or approved by a competent person for hot work operations to be performed regularly. Hot work in designated areas does not require a permit.

B. Designated Supervisor Acts as a Permit Authorizing Individual. It must be an individual who is knowledgeable of the hot work activities. This person may be the hot work operator's supervisor or an individual of equivalent or higher status.

C. Fire Watch Ensures safe conditions are maintained at the hot work site. Has received training on the hot work permit program and fire extinguishers.

D. Hot Work Work involving burning, welding, or a similar operation that is capable of initiating fires or explosions.

E. Hot Work Permit A document signed by the designated supervisor for the purpose of authorizing a specified hot work activity (See Appendix A).

F. Hot Work Operator

A trained individual authorized by the designated supervisor to perform hot work.

IV. Assignment of Responsibilities

Program Administrator The Program Administrator for our Welding, Cutting and Brazing Program is your assigned Zone Facility Manager. The Program Administrator has the knowledge, experience, training, and authority to direct this program. He is responsible for implementing, administering, and monitoring the program and has full authority to make necessary decisions to ensure its success. The Program Administrator will review and evaluate this

program on a regular basis to account for changes that may occur to Federal and State OSHA standards, changes implemented due to corrective actions, or any time the program does not appear to be adequate. In addition, the Program Administrator is responsible for:

- Establishing and maintaining the written policy and performing program oversight
- Providing technical expertise to management regarding safe welding, cutting, and brazing practices and protocols
- Setting criteria for qualified workplace assessments to conduct self-audit inspections
- Ensuring that control measures are implemented in a timely manner
- Ensuring that a system is in place for employees to report safety and health concerns and other risk factors to managers and supervisors
- Developing and coordinating safety training and educational curriculum, including supporting materials and literature
- Maintaining training records, including the date of training, name of instructor, topic, and materials used
- Evaluating the effectiveness of the program policies and implementation

Management

Management has the responsibility for the implementation, maintenance, and success of this program. Responsibilities may be delegated to the Program Administrator, supervisors, and/or the affected employees.

Management is responsible for:

- Providing adequate and timely resources necessary to support this program
- Evaluating job duties to identify potential hazards and the appropriate control methods for each job task
- Ensuring that proper employee safety training is provided
- Establishing and enforcing safe work practices and procedures
- Ensuring that workplace evaluations are conducted whenever an employee reports a problem

Designated Supervisors

Supervisors are responsible for assisting in the implementation of the program and ensuring that employees are trained and comply with the program.

In addition, supervisors are responsible for:

- Reviewing and approving hot work permits

- Understanding and communicating the elements of the program, including identification, assessment, and control of workplace welding, cutting, and brazing hazards
- Ensuring that assessments are conducted as appropriate with immediate corrective actions targeted for completion
- Ensuring that employees have received the appropriate training to utilize effective PPE
- Ensuring that employees are provided with and use the appropriate tools, equipment, parts, and materials
- Responding promptly to employee safety and health concerns
- Filing completed hot work permits

Employees

Employees are responsible for participating in safety training and following the safe work practices and procedures established by this program. Employees are also responsible for reporting to their supervisors workplace hazards or injuries as it relates to this program.

Hot Work Operators are responsible for:

- Maintain hot work equipment in safe operating condition.
- Obtain written approval from a designated supervisor before hot work begins.
- Post the approved hot work permit and warning signs (See Appendices A and B) at the work location.
- Cease hot work operations if unsafe conditions develop.
- Contact supervisor if conditions become unsafe or warrant reassessment during the hot work task.
- Return the completed hot work permit to the designated supervisor. *Fire Watches are responsible for:*

- Notify other personnel in the area of the hot work operations.
- Ensure that safe conditions are maintained during the hot work.
- Have fire-extinguishing equipment readily available.
- Extinguish fires when they are obviously within the capacity of the available fire extinguisher. If a fire is beyond the capacity of the equipment, immediately sound the fire alarm, evacuate the area, and call 911.
- Maintain a fire watch for at least 30 minutes after the hot work is completed.

Contractors

Contractors must have their own hot work policies that are in compliance with Federal and State OSHA standards. They must also comply with the requirements of this program and any additional requirements stipulated by the Program Administrator.

V. Health Hazards Gases and Fumes

There is no Federal or State OSHA standard for total welding smoke, but Federal and State OSHA have set standards for the individual components of welding smoke (1910.1000 TABLE Z-1). Local exhaust or general ventilation must be provided to keep the exposure to toxic fumes, gases, or dusts below the permissible exposure limit (PEL). Welding “smoke” is a mixture of very fine particulate (fumes) and gases. Many of the substances in welding smoke, such as chromium, nickel, arsenic, asbestos, manganese, silica, beryllium, cadmium, nitrogen oxides, phosgene, fluorine compounds, carbon monoxide, cobalt, copper, lead, ozone, selenium, and zinc can be extremely toxic.

Welding fumes and gases originate from many sources, including the following:

- Base material being welded or the filler material being used
- Coatings and paints on the metal being welded
- Coatings covering the electrode
- Shielding gases supplied from cylinders
- Chemical reactions that result by the action of ultraviolet light from the arc
- Heating process and consumables used
- Contaminants in the air (vapors from cleaners and degreasers)

Health Effects

The health effects of welding exposures can be acute or chronic. *Acute Health Effects (Short-Term)*

- Some components of welding fumes, such as cadmium, may be acutely fatal.
- Metal fumes, such as zinc, magnesium, copper, and copper oxide, can cause metal fume fever.
- Ultraviolet rays given off by welding may react with chlorinated hydrocarbon solvents to form phosgene gas. Because of this, arc welding should never be performed within 200 feet of degreasing operations.
- Welding smoke may cause coughing, wheezing, shortness of breath, bronchitis, pulmonary edema, and pneumonitis.

- Welding smoke may affect the gastrointestinal system, causing nausea, loss of appetite, vomiting, cramps, and slow digestion.
- Welding smoke may irritate the eyes, nose, chest, and respiratory tract. *Chronic Health Effects (Long-Term)*
- Welding may increase the risk of lung, larynx, and urinary tract cancer; kidney damage; and respiratory problems, including bronchitis, asthma, pneumonia, emphysema, pneumoconiosis, silicosis, siderosis, and decreased lung capacity.
- Other health problems associated with welding smoke may include heart disease, skin diseases, hearing loss, chronic gastritis, gastroduodenitis, and ulcers of the stomach and small intestine.
- Performing welding operations on surfaces covered with asbestos insulation may place welders at risk to developing asbestosis, lung cancer, mesothelioma, and other asbestos-related diseases.
- Welding smoke may also pose reproductive risks.

Other Health Hazards

Heat

- The intense heat of welding and sparks may cause burns.
- Contact with hot slag, metal chips, sparks, and hot electrodes may cause eye injuries.
- Excessive exposure to heat may result in heat stress or heat stroke.

Visible Light, Ultraviolet Light, and Infrared Radiation • Intense light associated with arc welding may cause damage to

the retina of the eye, while infrared radiation may damage the cornea and result in the formation of cataracts.

- Invisible ultraviolet light (UV) from the arc can cause “arc eye” or “welder’s flash” after even a brief exposure.
- Exposure to UV light may cause skin burns similar to sunburn and increase the risk of skin cancer.
- The arc may reflect off surrounding materials and burn coworkers working nearby. *Noise*
- Exposure to loud noise may permanently damage hearing.
- Federal and State OSHA has a noise standard that requires the employer to test for noise levels to evaluate employee exposure. If the noise exposure exceeds 85 decibels for an eight-hour time weighted average, the employer must implement a hearing conservation program.

Musculoskeletal Injuries • Welding operations may expose welders to musculoskeletal injuries, including back, shoulder, and knee pain, tendonitis, reduced muscle strength, and carpal tunnel.

VI. Hot Work Procedures

A. Pre-Work (for non-designated areas)

1. Isolate the HVAC system for interior work and to locate intake vents on the exterior of the building.
2. Inspect the hot work area, identify and control potential hazards. All flammables and combustibles within a 35 foot radius must be moved to a safe distance or shielded.
3. Cover all penetrations in walls, ceilings and floors within a 35-foot radius of the hot work. Protect combustible floors (i.e., wood) by wetting them down or covering them with a noncombustible drop cloth.
4. Place non-combustible or flame-resistant screens so personnel in adjacent areas are protected from arc flash, heat, flames, and welding slag.
5. Complete a hot work permit. Obtain authorization from a Designated Supervisor and post the permit at the work site.
6. Post warning signs in the area to warn nearby personnel of the hot work. Appendix B is an example of a warning sign.
7. Fully charged and operable fire extinguishers shall be available immediately at the work area. These extinguishers shall be supplied by the group performing the hot work.

B. During Hot Work

1. Maintain a fire watch in close proximity to the hot work for the duration of the job plus 30 at least minutes after completion of work.
2. Place welding hoses so that they will not be crushed or damaged. Always remove hoses from confined space when on break or lunch.

C. Post Work

1. Maintain a fire watch for at least 30 minutes after the hot work is completed.
2. Ensure fire extinguishing equipment is accessible throughout the entire duration of the fire watch.
3. Complete the appropriate sections of the hot work permit and return it to the designated supervisor.

VII. Employee Safety Training

Safety training is essential to help employees recognize workplace welding, cutting, and brazing risk factors and to understand and apply appropriate control strategies. Safety training will be provided to:

- New employees
- Employees changing job assignments for which job-specific safety training has not yet been provided
- When new welding, cutting, or brazing protocols, equipment, or materials are introduced
General safety training will include the following:
- An introduction to this program and how it relates to the Injury and Illness Prevention Program (IIPP)
- General hazards and risk factors associated with welding, cutting, and brazing
- Applicable engineering, administrative and work practices, and PPE controls necessary to minimize exposure to hazards. Job-specific safety training will include the following:
- Assignment of responsibilities
- Risk factors associated with specific job tasks
- Applicable engineering, administrative and work practices, and PPE controls necessary to minimize exposure to hazards.

VIII. Program Audit

At least annually, the Program Administrator will conduct an audit of the program to evaluate its effectiveness. Based on the results of the audit, changes may be made to the program to increase its effectiveness to ensure appropriate control of safety and health hazards. A program audit can be documented using the audit checklist in Appendix C.

IX. Recordkeeping

The Program Administrator will maintain records of the following.

- Hot work permits and supporting documentation
- Employee training records
- Program audits

X. Standards

- OSHA 29CFR 1910.252 Welding, Cutting and Brazing
- ANSI Z 49.1-2005 Safety in Welding, Cutting and Allied Processes
- NFPA 51B: Standard for Fire Prevention During Welding, Cutting, and Other Hot Work, 2014 edition

Appendix A: Hot Work Permit Appendix

A hot work permit is required for any operation involving open flames or producing heat and/or sparks outside of a designated hot work area. It must be authorized by a Designated Supervisor and posted at the hot work site. Return the finished permit to the Designated Supervisor for filing. If the required precautions cannot be satisfied, hot work is not permitted.

Inspection Date:

Work Order # (if applicable):

Location (building, floor, room #):

Name(s) and department(s) of Hot Work Operator(s):

Description of hot work and special precautions:

Authorization
This permit is valid for the pre-designated time period listed below and only so long as safe work conditions exist. It expires on any change in condition that adversely affects safety in work area. Permits are valid for a maximum period of 24 hours.

| | |
|------------------|-------|
| Start Date: | Time: |
| Expiration Date: | Time: |

Designated Supervisor Name (print) :

Designated Supervisor Signature:

Precautions Checklist

| | | | |
|--|-----------------------|-----------------------|-----------------------|
| A. General | Yes | No | N/A |
| 1. Hot Work Operator, Fire Watch, and Designated Supervisor are familiar with the written program. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 2. Hot work equipment is in good working condition. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 3. Workers are fitted with appropriate safety equipment. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 4. Hot work area is adequately ventilated. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 5. Workers know the locations of the fire alarm and firefighting equipment. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 6. Fire detection and/or sprinkler system is in service. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 7. Hot work permit and warning sign are posted on site. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 8. Other potentially affected persons (i.e., contractors, occupants) have been notified. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| B. Requirements within 35 ft. (11 m) of work | Yes | No | N/A |
| 1. Combustibles and flammables within 35 feet of work are removed or protected with appropriate shielding. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 2. Floor and wall openings are covered or sealed with non-combustible material. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 3. Duct and conveyor systems are shielded, shut down, or both. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| C. Work near walls or ceilings | Yes | No | N/A |
| 1. Construction is noncombustible and without combustible covering or insulation. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 2. Combustibles adjacent to walls (on both sides) are removed. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| D. Work on and near enclosed equipment | Yes | No | N/A |
| 1. Enclosed equipment cleaned of all combustibles. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 2. Containers purged of flammable liquids and vapors combustible gas monitoring completed. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 3. Equipment lockout-tagout completed. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| E. Fire watch | Yes | No | N/A |
| 1. Fire watch provided continuously during work. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 2. Hot work area was inspected 30 minutes after hot work was completed. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

Appendix B: Hot Work Operations Warning Sign



Appendix C: Hot Work Program Audit Checklist

Evolution Maintenance 2018 Safety Plan with 2021 & 2024 Supplement

Department/Building/Shop _____ Date _____

Designated Supervisor _____ Review Performed by _____

| A. General | Yes | No | N/A | Comments |
|--|-----------------------|-----------------------|-----------------------|----------|
| 1. Welding and cutting operations restricted to authorized employees | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | |
| 2. Designated hot work areas are fire safe | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | |
| 3. Hot work permits used for hot work outside of designated areas | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | |
| 4. Fire watch used in permit areas | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | |
| 5. Sufficient approved fire resistant shields (i.e., curtains, blankets, pads) are available | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | |
| 6. Appropriate fire extinguishers provided in vicinity of hot work | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | |
| 7. Building sprinkler systems operational | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | |
| 8. Local or general exhaust ventilation adequate | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | |
| 9. Appropriate personal protective equipment provided and used | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | |
| 10. Air monitoring performed when explosive or toxic air contaminants are potentially present | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | |
| 11. Recordkeeping is up to date | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | |
| 12. Hot work equipment is in good working condition | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | |
| B. Confined Spaces | Yes | No | N/A | Comments |
| 1. Safe procedures followed for hot work in confined spaces | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | |
| 2. Ventilation and/or respiratory protection provided and used | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | |
| 3. Welding cylinders and cutting equipment left outside confined space | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | |
| 4. Electrodes removed from holders and gas supply shut off when operations are suspended for any substantial period (e.g., lunch) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | |
| 5. Air monitoring performed | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | |

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| C. Compressed Gas Cylinders | Yes | No | N/A | Comments |
|---|-----------------------|-----------------------|-----------------------|----------|
| 1. Oxygen and fuel gas cylinders segregated (i.e., 20 feet apart or separated by a 5 foot fire wall) while in storage with protective valve caps in place | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | |
| 2. Regulators compatible with gas cylinders | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | |
| 3. Cylinder carts used for transport | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | |
| 4. Cylinders securely stored | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | |
| 5. Empty or unused gas cylinders securely stored and returned to supplier. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | |
| D. Training | Yes | No | N/A | Comments |
| 1. Workers trained in use of welding and cutting equipment, material hazards, and written program. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | |
| 2. Personal protective equipment training provided | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | |
| 3. Confined space entry training provided | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | |
| 4. Fire extinguisher training received within 1 year | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | |

Appendix D: Ventilation Requirements for Welding and Cutting on hazardous metals – 1910.252 (c)(2) through (10)

| Metal Compound Type | Confined Space Requirements | Indoor Requirements | Outdoor Requirements |
|--|--|--|---|
| Fluorine Compound | Supplied air respirator or self-contained breathing apparatus needed | Air sample tests to determine if exhaust hood, booth, or airline respirator are required | Same as indoors |
| Lead Base Metals, Zinc (Galvanized Metals) | Supplied air respirator or self-contained breathing apparatus | Exhaust hood or booth | Combination particulate and vapor and gas removing type respirator if tests indicate need |
| Beryllium | Supplied air respirator if air sample tests indicate need | Exhaust hood or booth and airline respirator if air sample tests indicate need | Exhaust hood or booth and airline respirator if air sample tests indicate need |
| Cadmium, Mercury | Supplied air respirator if air sample tests indicate need | Exhaust hood or booth and airline respirator if air sample tests indicate need | Combination particulate and vapor and gas removing type respirator if tests indicate need |

1. Supplied air respirator or self-contained breathing apparatus are required in confined areas that are immediately dangerous to life and health.
2. Air velocity from local exhaust hoods and booths must maintain of 100 linear feet per minute at the zone of welding 1910.252(c)(3).
3. Mechanical ventilation at 2,000 cubic feet of air per minute per welder is required when welding or cutting on metals other than described above; when there is less than 10,000 cubic feet of space per welder; or where the ceiling height is less than 16 feet; or in confined spaces or where structural barriers (partitions, balconies) significantly obstruct cross ventilation. 1910.252(c)(2)(i)(A) through (C).

Heat Illness Prevention Safety Program

INTRODUCTION

Evolution Maintenance, Inc. is firmly committed to the safety of our employees. The Occupational Health and Safety Act (OSHA) states that “each employer shall furnish to each of his employees employment and a place of employment which are free from recognized hazards that are causing or are likely to cause death or serious physical harm to his employees.” Heat illness is a recognized hazard in certain industries and jobs, and we will do everything possible to prevent heat illness in the workplace by providing a safe working environment for all employees. In addition, some state-approved OSHA programs require a written heat illness prevention program.

Operations involving high air temperatures, radiant heat sources, high humidity, and direct physical contact with hot objects or strenuous physical activities have a high potential for inducing heat illness in employees engaged in such operations.

The following six (6) illnesses may be caused by heat exposure.

1. Heatstroke
2. Heat exhaustion
3. Heat cramps
4. Heat collapse
5. Heat rash
6. Heat fatigue

Symptoms of these problems range from dizziness or fainting to more severe issues such as brain damage or death.

While the exact cause may be unknown, there are certain factors that are known to contribute to these heat-related problems. Age, weight, degree of physical fitness, degree of acclimatization, metabolism, use of alcohol or drugs, and a variety of medical conditions, such as hypertension, all may affect a person’s sensitivity to heat. Even the type of clothing worn must be considered. Additionally, an individual’s prior heat injury predisposes him or her to additional illness/ injury. Finally, environmental factors, including ambient air temperature, radiant heat, air movement, conduction, and

relative humidity, all affect an individual’s response to heat. However, regardless of these factors, it is difficult to predict who may be adversely affected by the heat and when it may occur because individual susceptibility varies.

Definitions for terms used in this Heat Illness Prevention Safety Program (Program) are located in Appendix A.

APPLICABILITY

This Program applies to all outdoor places of employment and any work operations involving high air temperatures, radiant heat sources, high humidity, direct physical contact with hot objects, or strenuous physical activities that have a high potential for inducing heat stress in employees engaged in such operations. Heat stress is a recognized hazard in outdoor operations conducted in hot weather including, but not limited to, agriculture, landscaping, construction, oil and gas, refining, asbestos removal, and hazardous waste site activities, especially those that require employees to wear semi-permeable or impermeable protective clothing. Other workplaces subject to hot conditions include iron and steel foundries, nonferrous foundries, brick-firing and ceramic plants, glass products facilities, rubber products factories, electrical utilities (particularly boiler rooms), bakeries, confectioneries, commercial kitchens, laundries, food canneries, chemical plants, mining sites, smelters, and steam tunnels.

Our Program was created in order to put our employees in the best position to prevent heat-related problems. Our Program is comprised of the following elements:

- Assignment of Responsibilities – Program Administration
- Hazard Inspection and Assessment
- Heat Related Illnesses and Emergency Responses
- Heat Illness Prevention Safety Plan
- Employee Education and Safety Training
- Program Evaluation
- Recordkeeping

SCOPE

This Program covers employees who are exposed to heat or hot conditions at or above the threshold levels for work areas and activities identified in the heat hazard inspection and assessment. Our company is committed to protecting employees from the hazards of hot conditions and to preventing heat-related illnesses at the workplace. We will identify, evaluate, and control potential exposure of our employees to extreme temperature, humidity, and other heat-related factors.

Our Program was created in order to put our employees in the best position to prevent heat-related problems. Our Program is comprised of the following elements:

- I. Assignment of Responsibilities
- II. Hazard Inspection and Assessment
- III. Heat-Related Illnesses and Signs & Symptoms

- IV. Heat Illness Prevention Safety Program
- V. Employee Education and Safety Awareness Training
- VI. Program Evaluation
- VII. Recordkeeping

Our Program establishes, implements, and maintains an effective heat illness prevention plan in both English and in any language understood by the majority of the employees. Our program will be made available to employees at the worksite and to OSHA representatives upon request.

I. ASSIGNMENT OF RESPONSIBILITIES

The Program Administrator is the President of Evolution Maintenance, Inc. or an assigned designee.

Program Administrator

The Program Administrator is responsible for implementing the Program at the worksite, monitoring work area heat conditions and employee physiological parameters, having the appropriate equipment available, and ensuring that employees are trained to recognize the signs and symptoms

of heat illnesses or injury and what to do if these occur. The Program Administrator may designate and authorize other personnel to implement specific components of the Program.

Supervisors

Supervisors are responsible for overseeing the use of this Program and ensuring that employees are complying with these requirements. This includes providing water, which will be fresh, pure, and suitably cool and provided to employees free of charge, and it will be located as close as practicable to where employees are working; acclimatization to heat; access to shade; monitoring of employees for heat-related illnesses; implementing high-heat procedures; and conducting employee safety awareness training.

Employees

Employees are responsible for following the work practices and procedures established by this Program. Employees are also responsible for informing their supervisor of any unsafe work practices or conditions they observe as it relates to this Program.

II. HAZARD INSPECTION AND ASSESSMENT

The Program Administrator or his or her designee will conduct an initial hazard inspection and assessment of all work areas and environments where hot conditions are anticipated or may occur. The Program Administrator will periodically conduct follow-up inspections to ensure compliance with this Program and to evaluate the effectiveness of heat stress control measures.

During the hazard inspection and assessment, the inspector will:

- Determine building and facility operating characteristics that may cause, contribute to, or alleviate hot conditions.
- Conduct walk-around inspection to cover all affected areas, including heat sources such as furnaces, ovens, boilers, and relative heat load per employee will be noted.
- Determine whether engineering and administrative controls are functioning properly.
- Verify information obtained from employee interviews.
- Perform temperature measurements and make other determinations to identify potential sources of heat stress.
- Discuss any operations that have the potential to cause heat stress with engineers or other knowledgeable personnel. Heat Stress Factors The following workplace factors will be considered in the hazard inspection and assessment for heat stress:
 - Air temperature
 - Radiant heat sources
 - Conductive heat sources
 - Humidity
 - Direct physical contact with hot objects
 - Workload activity and duration
 - Protective clothing that might increase potential for heat exposure

The following employee heat sensitivity factors may also be considered.

- Age
- Weight
- Degree of physical fitness
- Degree of acclimatization
- Metabolism
- Use of alcohol or drugs
- Medical conditions, such as hypertension
- Prior heat illness, which may predispose an individual to an additional illness

III. HEAT RELATED ILLNESSES SIGNS & SYMPTOMS

Illness as defined by OSHA is generally not instantaneous and occurs some time (hours or days) after the initial exposure to an occupational hazard. For example, an instantaneous reaction, such as a burn after touching a hot surface, is considered an injury whereas a delayed reaction

to a hot environment, such as heat exhaustion that occurs hours after the initial exposure, is considered an illness.

There are six (6) illnesses that may be caused by heat.

1. Heat stroke
2. Heat exhaustion
3. Heat collapse
4. Heat cramps
5. Heat rash
6. Heat fatigue

Each illness is discussed in detail below. Emergency response procedures include effective communication, response to signs and symptoms of heat illness, and procedures for contacting emergency responders to help stricken employees, which is discussed in detail in Section IV.

See Section IV, Subsection 4 (A – E) for our company's emergency response procedures.

1. Heat stroke is a condition when the body's system of temperature regulation fails, and one's body temperature rises to critical levels. Immediate action must be taken to cool the body before serious injury or death occurs. This condition is caused by a combination of highly variable factors and its occurrence is difficult to predict. Heat stroke is a medical emergency. The primary signs and symptoms of heat stroke are confusion; irrational behavior; loss of consciousness; convulsions; lack of or reduced sweating (usually); red, hot and dry skin; a strong, rapid pulse; and an abnormally high body temperature (e.g., a rectal temperature of 41°C/105.8°F). If body temperature is too high, it may cause death. The elevated metabolic temperatures caused by a combination of work load and environmental heat load, both of which contribute to heat stroke, are also highly variable and difficult to predict.

2. Heat exhaustion is a condition with signs and symptoms that may include headache; nausea; fainting; vertigo; dizziness; weakness; thirst; heavy sweating; and pale, cool, and/or moist skin. Fainting can be especially dangerous because the victim may be operating machinery or controlling an operation that should not be left unattended and, moreover, the victim may be injured when he or she faints. Note that the signs and symptoms seen in heat exhaustion may be similar to those of heat stroke, a medical emergency.

3. Heat collapse is a condition where the brain does not receive enough oxygen because blood pools in the extremities, resulting in a loss of consciousness (syncope). This reaction may be similar to that of heat exhaustion and affects the body's ability to balance heat. The onset of heat collapse is rapid and unpredictable.

Heat syncope is a fainting episode or dizziness that usually occurs with prolonged standing or sudden rising from a sitting or lying position. Factors that may contribute to heat syncope include dehydration and lack of acclimatization. To prevent heat collapse, employees should gradually become acclimatized to the hot environment.

4. Heat cramps are usually caused by performing hard physical labor in a hot environment. These cramps have been attributed to an electrolyte imbalance caused by sweating. Cramps can be caused by both too much and too little salt. Cramps are also caused by the lack of water replenishment. Because sweat is a hypotonic solution ($\pm 0.3\%$ sodium chloride), excess salt can build up in the body if the water lost through sweating is not replaced. Thirst cannot be relied on as a guide to the need for water; instead, water must be taken every 15 to 20 minutes in hot environments. Under extreme conditions, such as working for 6 to 8 hours in heavy protective gear, a loss of sodium may occur. Recent studies have shown that drinking commercially available carbohydrate-electrolyte replacement liquids is effective in minimizing physiological disturbances during recovery. Signs and symptoms of heat cramps include, but are not limited to, muscle spasms and pain in the hands, feet, and abdomen.

5. Heat rash, also known as “prickly heat,” is manifested as red papules (e.g., small, inflammatory, irritated spots on skin), and usually appears in areas where the clothing is restrictive. It is the most common problem in hot work environments. As sweating increases, these papules give rise to a prickling sensation. Prickly heat occurs on skin that is persistently wetted by unevaporated sweat, and heat rash papules may become infected if they are not treated. In most cases, heat

rash will disappear when the affected individual returns to a cool environment.

6. Heat fatigue is a temporary state of discomfort and mental or psychological strain arising from prolonged heat exposure. It is generally caused by fluid loss. Employees unaccustomed to the heat are particularly susceptible and can suffer, to varying degrees, a decline in task performance, coordination, alertness, and vigilance.

IV. HEAT ILLNESS PREVENTION SAFETY PLAN

Our Program establishes, implements, and maintains an effective heat illness prevention plan in both English and in any language understood by the majority of the employees. The Program will be made available to employees at the worksite and to representatives OSHA upon request.

Our Program includes:

1. Provisions of Water
2. Access to Shade
3. High-Heat Procedures
4. Emergency Response Procedures
5. Acclimatization Methods and Procedures
6. Heat Illness Prevention Controls
 - a. Engineering
 - b. Work Practice (Administrative)
 - c. Personal Protective Equipment (PPE)

1. Provision of Water – Water is a key preventive measure to minimize the risk of heat-related illnesses.

Water will be fresh, pure, and suitably cool (cooler than the ambient temperature); provided to employees free of charge; and located as close as practicable to where employees are working. Placing water only in designated shade areas or where toilet facilities are located is not sufficient. Additionally, water from non-approved or non-tested sources, such as an untested well, is not permitted. If water is not plumbed or otherwise continuously supplied, each employee will be provided with a minimum of one quart of water per hour for the entire shift.

An employer may begin the with smaller quantities of water if there are effective procedures for replenishment during the shift as needed to allow employees to drink one quart or more of water per hour. The frequent drinking of water will be encouraged. Procedures include, but are not limited, to the following checked items.

Our company's specific means for providing employees with fresh, pure, and cool water are:

- Take and drink plenty of water and take frequent breaks
- Bring at least two (2) quarts of water per employee at the start of each shift
- Water containers will be kept in a sanitary condition
- Supervisor/designated person will monitor water containers every 30 minutes or more often if temperatures rise and will refill with cool water or bring additional containers to replace water
- Employees are encouraged to report to supervisor/ designated person low levels or dirty water
- Supervisors will provide frequent reminders to employees to drink frequently, and more water breaks will be provided
- Every morning, short tailgate meetings will be conducted in a language readily understood by employees to remind employees about the importance of frequent consumption of water throughout the shift
- Place water containers as close as possible to where employees are working.
- When drinking water levels within a container drop below 50%, the water will be replenished immediately.
- Water levels will be maintained so that employees have adequate water supply, even during the time necessary to affect replenishment.
- Disposable/single use drinking cups will be provided to employees or provisions will be made to issue employees their own cups each day.
- Noise making devices, such as air horns, may be used to remind employees to take their water break.

2. Access to Shade Access to rest and shade or other cooling measures are important preventive steps to minimize the risk of heat related illnesses.

Shade will be present and/or provided when outdoor temperatures exceed 80 degrees Fahrenheit and will accommodate all employees on recovery or rest periods and those employees onsite taking meal periods. In addition, the shaded area(s) will be located as close as

practicable to the areas where employees are working. When temperatures do not exceed 80 degrees Fahrenheit, timely access to shade will be made available upon an employee's request.

Employees will be allowed and encouraged to take a minimum of five (5) minutes for a cool-down rest period if they feel they need to protect themselves from overheating. In addition to allowing and encouraging employees to take cool-down rest periods and remain in the shade, employees taking rest periods will be monitored and asked whether they are experiencing any signs and/or symptoms of heat illness. Employees who experience heat illness signs and/or symptoms will be provided appropriate first aid or emergency response. Employees will not be required to go back to work until signs and/or symptoms of heat illness have been abated.

For non-agricultural employers, the use of cooling measures other than shade (e.g., use of misting machines) may be provided in lieu of shade if the employer can demonstrate that these measures are at least as effective as shade in allowing employees to cool.

Our procedures for providing access to shade include, but are not limited, to the following checked items.

Our specific means for providing employees with shade are:

- Take and drink plenty of water and take frequent breaks
- A supervisor will set-up an adequate number of umbrellas, canopies, or other portable devices at the start of the shift and will relocate them to be closer to the employees as needed.
- Shade will be provided in close proximity (e.g., no more than 50 to 100 yards) to the work activity being performed by employees.
- Employees will have access to an office, construction trailer, or other building with air conditioning.
- Every morning, short tailgate meetings will be conducted in a language readily understood by employees to remind employees about the importance of frequent consumption of water throughout the shift

3. High-Heat Procedures When the temperature equals or exceeds 95 degrees Fahrenheit, the high-heat procedures detailed below will be implemented. There will be effective communication between supervisors and employees when high-heat temperature procedures are implemented, and supervisors will actively observe employees for alertness and signs and/or symptoms of heat illness.

High-heat procedures, which are triggered at 95 degrees Fahrenheit, will ensure effective observation and monitoring as detailed in Section IV. Heat Illness Prevention Safety Program, but will also include the following to assertively monitor employees.

1. Effective and regular communication with employees by voice, observation, or electronic means, will include (check one):

- Supervisor or designee will directly observe and monitor employees (applies to work employees in small groups of no more than 20 workers)
- A mandatory buddy system (employees will stay in contact with their buddy and observe

each other throughout the day and will immediately report signs and/or symptoms of heat illness)

- Regular communication with sole employee by radio or cell phone
- Other effective means of observation such as _____

2. Effective response with first-aid measures by (check one):

- Designating one employee on each worksite as authorized and assigned to call for emergency medical services
- Designating a small number of employees per crew to call for emergency services when required
- Procedures for contacting emergency responders to help stricken employees
- Pre-shift meetings before the commencement of work on each shift during high heat conditions that review high heat procedures, encourage employees to drink plenty of water, remind employees of their right to take a cool-down rest break when needed, and identify the employee(s) who will call for emergency medical services when needed

4. Emergency Response Procedures

Emergency response services must be provided if an employee suffers heat illness. Our company emergency responses services are detailed below. In the event that a supervisor and/or employee believes that immediate medical services are necessary for any heat illness signs and/or symptoms (e.g., decreased level of consciousness, staggering, vomiting, incoherent speech, or convulsions), the employee and/or supervisor should contact 911 immediately. A sick employee should never be left alone or sent home without being offered on-site first aid or provided with emergency medical services.

A. Emergency Response to Heat Stroke If an employee shows signs of possible heat stroke, professional medical treatment must be obtained immediately. The supervisor or co-employees will take the following steps to treat an employee with heat stroke.

- Call 911 immediately and notify the supervisor.
- Move the sick employee to a cool, shaded area.
- Cool the employee using methods such as soaking his or her clothes with water; spraying, sponging, or showering him or her with water; placing ice packs in the armpits and groin area and fanning his or her body. The employee should be placed in a shady area and the outer clothing should be removed. The employee's skin should be wetted and air movement around the employee should be increased to improve evaporative cooling until professional methods of cooling are initiated and the seriousness of the condition can be assessed. Fluids should be replaced as soon as possible.

B. Emergency Response to Heat Exhaustion

Heat exhaustion often responds readily to prompt treatment. An employee suffering from heat exhaustion should:

- Rest in a cool, shaded or air-conditioned area
- Drink plenty of water or other cool, nonalcoholic beverages
- Take a cool shower, bath, or sponge bath
- Do not leave a sick employee alone

Employees suffering from heat exhaustion will be removed from the hot environment and given fluid replacement. They will also be encouraged to get adequate rest.

C. Emergency Response to Heat Collapse

Employees who exhibit signs of heat collapse (syncope) will be instructed by a supervisor or co-employees to:

- Sit or lie down in a cool place when they begin to feel symptoms
- Slowly drink water, clear juice, or a sports beverage
- Do not leave a sick employee alone

D. Emergency Response to Heat Cramps

Employees with heat cramps should:

- Stop all activity and sit in a cool place
- Drink clear juice or a sports beverage
- Not return to strenuous work until a few hours after the cramps subside because further exertion may lead to heat exhaustion or heat stroke
- Seek medical attention if the employee has heart problems, the employee is on a low-sodium diet, or the cramps do not subside within one hour
- Do not leave a sick employee alone.

The medical outcome of an episode of heat stroke depends on the victim's physical fitness and the timing and effectiveness of first-aid treatment. Regardless of the employee's protests, no employee suspected of being ill from heat stroke should be sent home or left unattended unless a physician has specifically approved such an order.

- Do not leave a sick employee alone

E. Emergency Response to Heat Rash

Employees with heat rash should:

- Work in a cooler, less humid environment when possible
- Keep the affected area clean and dry
- Do not leave a sick person alone

Heat rash or prickly heat resolves on its own once the skin cools, but on occasion the sweat glands can become infected. The signs of infection include pain, increased swelling, and redness that does not resolve. Pustules may form at the site of the rash. This infection occurs because bacteria have invaded the blocked sweat gland. Antibiotic treatment may be required. Chronic and recurrent heat rash may need to be treated by a health care professional or dermatologist (skin specialist).

F. Emergency Response to Heat Fatigue There is no treatment for heat fatigue except to remove the heat stress before a more serious heat-related condition develops. Therefore, an employee suffering from heat fatigue should be removed from the heat stress area or source before a more serious heat-related condition develops. Ingestion of fluids should also be encouraged. The severity of transient heat fatigue will usually be lessened by a period of gradual adjustment to the hot environment (heat acclimatization). Do not leave a sick employee alone.

5. Acclimatization Methods and Procedures Acclimatization is the process by which the body adjusts to increased heat exposure. The body needs time to adapt when working in hotter environments. To prevent heat illness, the employee will gradually become acclimatized to the hot conditions and will be closely observed and monitored during a heat wave, which is defined as at least 80 degrees Fahrenheit or anytime the temperature is ten degrees higher than the average high daily temperature in the preceding five (5) days. Employers are to assign supervisors to closely observe and monitor employees during a heat wave.

Employees who are (1) newly hired, (2) have not worked under comparable hot conditions, or (3) have been away from work areas covered under this Program for more than a week will follow acclimatization procedures for the first two (2) weeks (14 days) of his or her employment working outdoors or in a high heat area.

Daily Exposure Time

The acclimatization process will expose employees to work in hot conditions for progressively longer periods. For new employees who will be similarly exposed, the exposure time per day progression should feature a shorter initial exposure time. An example daily progression is as follows.

- 20% on day one
- 20% increase in exposure each additional day

For employees who have had previous experience in jobs where heat levels are high enough to produce heat stress, or during heat waves, the initial exposure time can start at a higher level. An example daily progression is as follows.

- 50% exposure on day one
- 60% on day two
- 80% on day three
- 100% on day four

6. Heat Illness Prevention Controls a. Engineering Controls The following engineering controls are applicable primarily to indoor situations and may be implemented as appropriate before work begins and in combination with the work one or more of the following practices discussed below.

- General ventilation will be used where feasible and practical to dilute hot air with cooler air.
 - Portable or local exhaust systems will be provided for small areas where general ventilation is not feasible or practical.
 - If the dry bulb temperature is higher than 95 degrees Fahrenheit and the air is dry, evaporative cooling may be improved by air movement.
 - When the dry bulb temperature exceeds 95 degrees Fahrenheit and the relative humidity is 100%, air movement will make the employee hotter and forced ventilation will not be used to alleviate heat stress.
 - Fans will be provided where general ventilation is insufficient or impractical and when evaporative cooling will be improved by air movement.
 - Air cooling or conditioning will be provided where feasible and practical.
 - Shields may be used to reduce radiant heat (e.g., heat coming from hot surfaces) for surfaces that exceed 95 degrees Fahrenheit within the employee's line of sight. The reflective surface of the shield will be kept clean to maintain its effectiveness.
 - Cooler surfaces surrounding the employee may be used to assist in cooling because the employee's body radiates heat toward them.
 - Insulation will protect pipes or they will be otherwise shielded to reduce radiant heat.
 - Cool room(s) will be used as a recovery area near hot work areas.
- b. Work Practice (Administrative) Controls

Work practices will be implemented to reduce the risk of elevating an employee's core body temperature. Heat illness prevention work practices that may be implemented individually or in combination include the following.

- Provide fresh, pure, and suitably cool water
- Provide access to shade
- Provide employee work and rest intervals and recovery areas such as air-conditioned enclosures and rooms
- Monitor physiological signs of heat illness continuously, check all employees, and stay alert to the presence of heat related symptoms
- Establish and implement acclimatization schedules

- Reduce the physical demands of work (e.g., excessive lifting or digging with heavy objects)
 - Use shifts and schedule work in the early morning, cool part of the day, or at night
 - Use employee pacing
 - Assign extra employees and limit employee occupancy, or the number of employees present, especially in confined or enclosed spaces
 - Schedule routine maintenance and repair work in hot areas for the cooler seasons of the year
 - Train all supervisors and employees on heat illness prevention prior to working outdoors
 - Remind employees every morning about the importance of recognizing signs and/or symptoms of heat illness and appropriate emergency procedures.
 - Report immediately any signs or symptoms of heat illness that an employee is experiencing
 - Carry cell phones in good working order and/or use other effective means of communication to ensure that emergency services can be called.
- c. Personal Protective Equipment (PPE) Controls The Program Administrator or designee will determine the types of PPE that may be used to minimize heat stress after engineering and work practices controls have been implemented and employees are still exposed to heat illness hazards. Such PPE will be provided as needed and where feasible and practical. PPE used to reduce heat illness hazards may include, but is not limited to, reflective clothing, watercooled garments, wetted clothing, and supplied-air hoods.
- Reflective clothing varies from aprons and jackets to suits that completely enclose the employee from neck to feet and can stop the skin from absorbing radiant heat. Because most reflective clothing does not allow air exchange through the garment, the reduction of radiant heat must more than offset the corresponding loss in evaporative cooling. For this reason, reflective clothing should be worn as loosely as possible. In situations where radiant heat is high, auxiliary cooling systems can be used under the reflective clothing.
 - Water-cooled garments include commercially available ice vests that may accommodate as many as 72 ice packets, which are usually filled with water. Carbon dioxide (dry ice) may also be used as a coolant. The cooling offered by ice packets lasts 2 to 4 hours at moderate to heavy heat loads, and frequent replacement will be necessary. Water-cooled garments range from a hood, which cools only the head, to vests and "long johns," which offer partial or complete body cooling.
 - Wetted clothing is effective when reflective or other impermeable protective clothing is worn. The clothing may be wetted terry cloth coveralls or wetted two-piece, whole body cotton suits. This approach is effective under conditions of high temperature and low humidity where evaporation from the wetted garment is not restricted.

- Supplied-air hood (bubble hood) forces exhaust air around the neck and down inside an impermeable suit when respiratory protection is also necessary. The air then escapes through openings in the suit.
- 4. The concept, importance, and methods of acclimatization Evolution Maintenance, Inc. pursuant to _____ procedures.
- 5. The different types of heat illness, the common signs and/ or symptoms of heat illness, and appropriate first aid and/ or emergency responses to the different types of heat illness, and in addition, that heat illness may progress quickly from mild signs and/or symptoms to serious and life threatening illness.
- 6. The importance to employees of immediately reporting signs and/or symptoms of heat illness in themselves or in co-employees.

V. EMPLOYEE EDUCATION AND SAFETY AWARENESS TRAINING

Employee education and safety awareness training is critical to help reduce the risk of heat-related illnesses and to assist with obtaining emergency assistance without delay. New employees whose work routinely exposes them to high heat situations must be trained before beginning work.

Effective training in the following topics will be provided to each supervisory and non-supervisory employee before the employee begins work that should reasonably be anticipated to result in exposure to heat illness.

Employee Training Specifically, employees will be trained in:

1. The environmental and personal risk factors for heat illness, as well as the added burden of heat load on the body caused by exertion, clothing, and personal protective equipment.

Evolution Maintenance, Inc. 2. _____ procedures for complying with the requirements of this standard, including, but not limited to, the employer's responsibility to provide water, shade, cool-down rests, and access to first aid as well as the employees' right to exercise their rights under this standard without retaliation.

3. The importance of frequent consumption of small quantities of water, up to four (4) cups per hour, when the work environment is hot and employees are likely to be sweating more than usual in the performance of their duties.
7. Our procedures for responding to signs and/or symptoms of possible heat illness, including how emergency medical services will be provided should they become necessary.
8. Our procedures for contacting emergency medical services, and if necessary, for transporting employees to a point where they can be reached by an emergency medical service provider.

9. In the event of an emergency, our procedures for ensuring that clear and precise directions to the work site can and will be provided as needed to emergency responders. These procedures will include designating a person to be available to ensure that emergency procedures are invoked when appropriate.

To be effective, training must be understood by employees and given in a language the employees understand. The test of compliance is whether training has occurred, whether the required content has been provided, and whether the training has been effective in communicating the essentials to employees. The training provided must be consistent with work practices established by the Program.

Please see Appendix B for the OSHA Quick Card that may be distributed to employees as a training tool. Please note this should not be the sole source of training provided to employees.

Supervisory Training

Prior to supervising employees performing work that could reasonably be anticipated to result in exposure to heat illness, effective training on the following topics will be provided to the supervisor.

1. The information required to be provided to all employees.
2. The procedures the supervisor is to follow to implement applicable provisions of this Program, including their responsibility to provide water, shade, cool-down rests; access to first aid; and the employees right to exercise rights without retaliation.
3. The procedures the supervisor is to follow when an employee exhibits and/or reports signs and/or symptoms consistent with possible heat illness, including emergency response procedures.
4. How to monitor weather reports and how to respond to hot weather advisories, the heat index, how to plan daily for hot weather, and OSHA's new phone app for high heat – Please see Appendix C, Appendix D, and Appendix E, and Appendix F respectively. Refresher Training Employees covered by this Program will also receive refresher heat illness training on a periodic basis or whenever there is a change in work assignment, hot conditions, or when a new heat source is introduced to a work area.

VI. PROGRAM EVALUATION

This Program will be periodically reviewed and updated when:

- New activities or equipment that creates heat stress are introduced into the workplace.
- Evaluations of heat stress hazards, injuries, and illnesses demonstrate that the current Program is outdated or not effective.
- Regulatory or applicable national consensus standards change that require this Program to be updated.

Workplace evaluations must be performed periodically and annually by the Program Administrator or designee to ensure that the provisions of this Program are effective

Employees may be interviewed periodically to assess Program effectiveness. In addition to employee interviews, the following criteria may also be used to evaluate the performance of the Program:

- Illness reports and number of illnesses
- Management questions and/or staff compliance with Program components
- Employee complaints

Recordkeeping Heat-related illnesses that are relieved by first aid and do not require additional medical treatment will be recorded by using a heat-related illness first-aid log. It is important that first-aid responders be aware that there can be a potential for a heat illness relapse or for escalation of a non-serious condition to one that will need skilled emergency treatment.

Evolution Maintenance, Inc. It is essential that _____ is aware of and maintains records of all heat-related illnesses, even if not technically required to do so by OSHA's recordkeeping rule.

Evolution Maintenance, Inc. _____ will comply with OSHA's recordkeeping requirements with respect to all workplace heat-related illnesses. A heatrelated illness that requires medical treatment beyond first aid and/or result in days away from work or restricted duty will be recorded as an illness on the OSHA 300 and 300A Forms pursuant to OSHA's recordkeeping requirements.

Evolution Maintenance, Inc. _____ will retain copies of all heat illness inspections and assessments for at least three (3) years and all safety awareness training records, illness records (OSHA 300 and 300A Forms), and cool-down rest period documentation for at least five (5) years.

Appendix A - Definitions

"Acclimatization" means temporary adaptation of the body to work in the heat that occurs gradually when a person is exposed to it. Acclimatization peaks in most people within four to fourteen days of regular work for at least two hours per day in the heat.

"Heat Illness" means a serious medical condition resulting from the body's inability to cope with a particular heat load, and includes heat cramps, heat exhaustion, heat syncope, and heat stroke.

“Heat index” combines both air temperature and relative humidity into a single value that indicates the apparent temperature in degrees Fahrenheit, or how hot the weather will feel. The higher the heat index, the hotter the weather will feel, and the greater the risk that outdoor employees will experience heat-related illness.

“Environmental risk factors for heat illness” means working conditions that create the possibility that heat illness could occur, including air temperature, relative humidity, radiant heat from the sun and other sources, conductive heat sources such as the ground, air movement, workload severity and duration, protective clothing, and personal protective equipment worn by employees.

“Personal risk factors for heat illness” means factors such as an individual’s age, degree of acclimatization, health, water consumption, alcohol consumption, caffeine consumption, and use of prescription medications that affect the body’s water retention or other physiological responses to heat.

“Shade” means blockage of direct sunlight. One indicator that blockage is sufficient is when objects do not cast a shadow in the area of blocked sunlight. Shade is not adequate when heat in the area of shade defeats the purpose of shade, which is to allow the body to cool. For example, a car sitting in the sun does not provide acceptable shade to a person inside it, unless the car is running with air conditioning. Shade may be provided by any natural or artificial means that does not expose employees to unsafe or unhealthy conditions and that does not deter or discourage access or use.

“Temperature” means the dry bulb temperature in degrees Fahrenheit obtainable by using a thermometer to measure the outdoor temperature in an area where there is no shade. While the temperature measurement must be taken in an area with full sunlight, the bulb or sensor of the thermometer should be shielded while taking the measurement, (e.g., with the hand, or some other object, from direct contact by sunlight).

Appendix B - OSHA Quick Card

OSHA® QUICK CARD™

Protecting Workers from Heat Stress

Heat Illness

Exposure to heat can cause illness and death. The most serious heat illness is heat stroke. Other heat illnesses, such as heat exhaustion, heat cramps and heat rash, should also be avoided.

There are precautions your employer should take any time temperatures are high and the job involves physical work.

Risk Factors for Heat Illness

- High temperature and humidity, direct sun exposure, no breeze or wind
- Low liquid intake
- Heavy physical labor
- Waterproof clothing
- No recent exposure to hot workplaces

Symptoms of Heat Exhaustion


- Headache, dizziness, or fainting
- Weakness and wet skin
- Irritability or confusion
- Thirst, nausea, or vomiting

Symptoms of Heat Stroke

- May be confused, unable to think clearly, pass out, collapse, or have seizures (fits)
- May stop sweating

To Prevent Heat Illness, Your Employer Should

- Establish a complete heat illness prevention program.
- Provide training about the hazards leading to heat stress and how to prevent them.
- Provide a lot of cool water to workers close to the work area. At least one pint of water per hour is needed.






OSHA® QUICK CARD™

- Modify work schedules and arrange frequent rest periods with water breaks in shaded or air-conditioned areas.
- Gradually increase workloads and allow more frequent breaks for workers new to the heat or those that have been away from work to adapt to working in the heat (acclimatization).
- Routinely check workers who are at risk of heat stress due to protective clothing and high temperature.
- Consider protective clothing that provides cooling.

How You Can Protect Yourself and Others

- Know signs/symptoms of heat illnesses; monitor yourself; use a buddy system.
- Block out direct sun and other heat sources.
- Drink plenty of fluids. Drink often and BEFORE you are thirsty. Drink water every 15 minutes.
- Avoid beverages containing alcohol or caffeine.
- Wear lightweight, light colored, loose-fitting clothes.


What to Do When a Worker is Ill from the Heat

- Call a supervisor for help. If the supervisor is not available, call 911.
- Have someone stay with the worker until help arrives.
- Move the worker to a cooler/shaded area.
- Remove outer clothing.
- Fan and mist the worker with water; apply ice (ice bags or ice towels).
- Provide cool drinking water, if able to drink.

IF THE WORKER IS NOT ALERT or seems confused, this may be a heat stroke. CALL 911 IMMEDIATELY and apply ice as soon as possible.

If you have any questions or concerns, call OSHA at 1-800-321-OSHA (6742).


For more information:



OSHA® Occupational Safety and Health Administration

www.osha.gov (800) 321-OSHA (6742)

For more information:



OSHA® Occupational Safety and Health Administration

www.osha.gov (800) 321-OSHA (6742)

Appendix C - Monitoring Weather

Supervisors will be trained and instructed to check the weather and extended weather forecasts in advance of work being performed by employees.

Weather forecasts can be checked with the aid of the internet (<http://www.nws.noaa.gov/>), by calling the National Weather Service phone numbers, or by checking the Weather Channel TV Network. The work schedule will be planned in advance, taking into consideration whether high temperatures or a heat wave is expected. This type of advance planning should take place all summer long.

Prior to each workday, the forecasted temperature and humidity for the worksite will be reviewed and will be compared against the National Weather Service Heat Index to evaluate the risk level for heat illness. Determination will be made of whether or not employees will be exposed at a temperature and humidity characterized as either “extreme caution” or “extreme danger” for heat illnesses. It is important to note that the temperature at which these warnings occur must be lowered as much as 15 degrees if the employees under consideration are in direct sunlight.

Prior to each workday, the supervisor will monitor the weather using <http://www.nws.noaa.gov/> or with the aid of a simple thermometer at the worksite. This critical weather information will be taken into consideration to determine when it will be necessary to make modifications to the work schedule (e.g., such as stopping work early, rescheduling the job, working at night or during the cooler hours of the day, increasing the number of water and rest breaks, etc.).

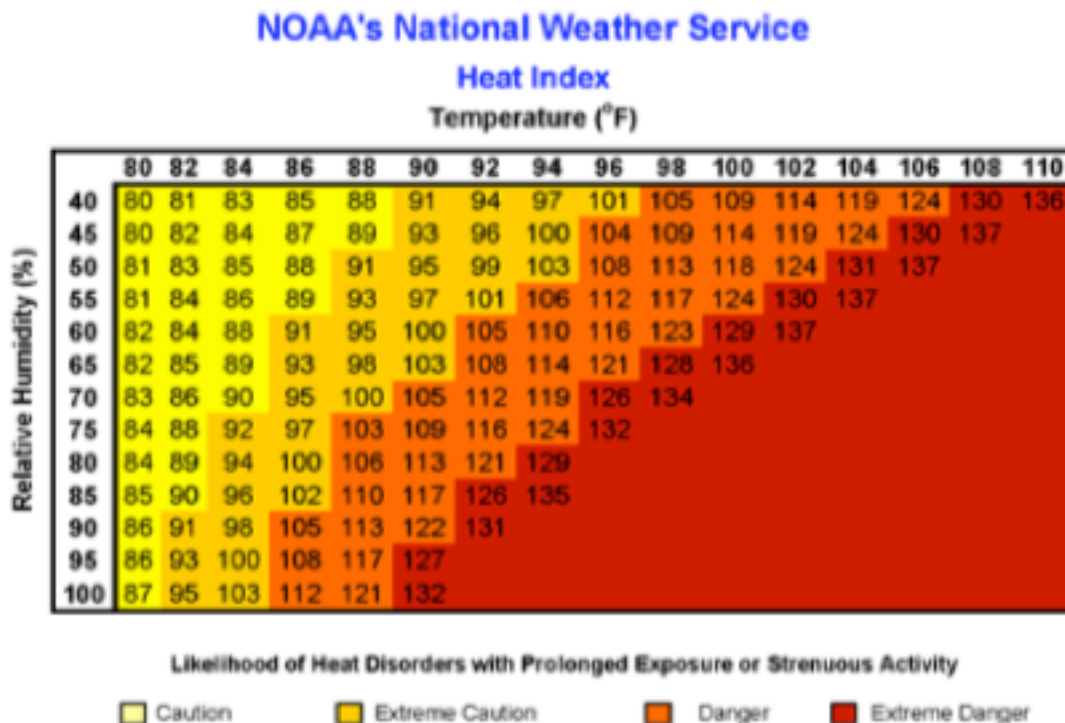
A thermometer will be used at the jobsite to monitor for sudden increases in temperature, and to ensure that once the temperature exceeds 80 degrees Fahrenheit, shade structures will be opened and made available to the employees. In addition, when the temperature equals or exceeds 95 degrees Fahrenheit, additional preventive measures such as the High Heat Procedures will be implemented.

Appendix D – Heat Index

The U.S. National Oceanographic and Atmospheric Administration (NOAA) developed the heat index system. The heat index combines both air temperature and relative humidity into a single value that includes the apparent temperature in degrees Fahrenheit, or how hot the weather will feel. The higher the heat index, the hotter the weather will feel, and the greater the risk that outdoor workers will experience heat-related illness. NOAA issues heat advisories as the heat index rises. To learn more about the heat index, visit NOAA's website.

Why Humidity Matters

Relative humidity is a measure of the amount of moisture in the air. Sweat does not evaporate as quickly when the air is moist as it does in a dry climate. Since evaporation of sweat from the skin is one of the ways the human body cools itself on a hot day, high humidity reduces our natural cooling potential and we feel hotter. Low humidity can also be a problem for outdoor workers on hot, desert-like climates. Sweat evaporates very quickly in low humidity, which can lead to severe dehydration if a person does not drink enough water throughout the day.



Using the Heat Index to Protect Workers

The heat index can be used to help determine the risk of heat-related illness for outdoor workers, what actions are needed to protect workers, and when those actions are triggered.

Depending on the heat index value, the risk for heat-related illness can range from lower to very high to extreme. As the heat index value goes up, more preventive measures are needed to protect workers. Heat index values are divided into four bands associated with four risk levels.

These bands differ from those appearing in the NOAA Heat Index chart, which was developed for the public. The NOAA bands have been modified for use at worksites.

Important considerations: NOAA devised the heat index values for shaded conditions and light winds. Full sunshine can increase heat index values by up to 15° Fahrenheit. Strenuous work and the use of heavy or specialized protective clothing also have an additive effect. As a result, the risk at a specific heat index could be higher than that listed in the table above if the work is in direct sunlight without a light breeze, or if work involves strenuous tasks or the use of heavy or specialized protective clothing. Extra measures, including implementing precautions at the next risk level, are necessary under these circumstances.

| Heat Index | Risk Level | Protective Measures |
|--------------------|----------------------|---|
| Less than 91°F | Lower (Caution) | Basic heat safety and planning |
| 91°F to 103°F | Moderate | Implement precautions and heighten awareness |
| 103°F to 115°F | High | Additional precautions to protect workers |
| Greater than 115°F | Very High to Extreme | Triggers even more aggressive protective measures |

Appendix E - Daily Planning for Hot Weather - Employer Checklist

| | |
|--------------------------|---|
| <input type="checkbox"/> | Ensure supervisor or foreman has a map of the site along with clear and precise directions (name of street or intersections) of the worksite. |
| <input type="checkbox"/> | Develop a list of hot weather supplies (e.g., water, shade devices, etc.). Estimate quantities that will be needed, and decide who will be responsible for obtaining, transporting, and checking that supplies are not running low. |
| <input type="checkbox"/> | Create emergency action plan for heat-related illnesses (e.g., who provide first aid and emergency services, if necessary). |
| <input type="checkbox"/> | Identify methods to gain real-time access to important weather forecast and advisory information from the National Weather Service and ensure the information is available at outdoor work sites (e.g., laptop computer, cell phone, other internet-ready device, weather radio). |
| <input type="checkbox"/> | Determine how weather information will be used to modify work schedules, increase the number of water and rest breaks, or cease work early if necessary. |
| <input type="checkbox"/> | Train employees on the risks presented by hot weather, how to identify heat-related illnesses, and the steps that will be taken to reduce the risk. |
| <input type="checkbox"/> | Plan to have a knowledgeable person on the worksite who can develop and enforce work/rest schedules and conduct physiological monitoring, when necessary, at high and very high/extreme risk levels for heat-related illness. |

WATER

Is there plenty of fresh, cool drinking water located as close as possible to the workers?

☐ **YES** ☐ **NO**

Are water coolers refilled throughout the day? (Has someone been designated to check and make sure water is not running low?)

☐ **YES** ☐ **NO**

SHADE

Is shade or air conditioning available for breaks and if employees need to recover?

☐ **YES** ☐ **NO**

TRAINING

Do employees know the:

Common signs and/or symptoms of heat-related illness?

☐ YES ☐ NO

Proper precautions to prevent heat-related illness?

☐ YES ☐ NO

Importance of acclimatization?

☐ YES ☐ NO

Importance of drinking water frequently (even when they are not thirsty)?

☐ YES ☐ NO

Steps to take if someone is having signs and/or symptoms of heat illness?

☐ YES ☐ NO

EMERGENCIES

Do all employees know who to notify if there is an emergency?

☐ YES ☐ NO

Can all employees explain their location if they need to call an ambulance?

☐ YES ☐ NO

Do all employees know who will provide first aid?

☐ YES ☐ NO

KNOWLEDGEABLE PERSON

For high and very high/extreme heat index risk levels, is there a knowledgeable person at the worksite who is well-informed about heat-related illness and able to determine appropriate work/rest schedules and can conduct physiological monitoring as necessary?

☐ YES ☐ NO

PHYSIOLOGICAL MONITORING

Are employees in the high or very high/extreme heat index risk levels being physiologically monitored as necessary?

☐ YES ☐ NO

EMPLOYEE REMINDERS

All supervisors and/or foremen must remind employees to (1) drink water often, (2) rest in the shade, and (3) report heat-related signs and/or symptoms early. Check all of the following boxes after the supervisor and/or foreman has reminded employees.

☐ Drink water often

☐ Rest in shade

☐ Report heat-related signs and/or symptoms early

Appendix F – OSHA’s Phone App for High Heat

To access OSHA’s phone app for high heat, please visit

https://www.osha.gov/SLTC/heatillness/heat_index/heat_app.html

HEAT SAFETY TOOL

By U.S. Department of Labor (DOL). Occupational Safety and Health Administration (OSHA)



When you are working in the heat, safety comes first. With the OSHA Heat Safety Tool, you have vital safety information available whenever you need it – right on your mobile phone.

The App allows workers and supervisors to calculate the **heat index** for their worksite, and, based on the heat index, displays a **risk level** to outdoor workers. Then, with a simple “click,” you can get reminders about the **protective measures** that should be taken at that risk level to protect workers from heat-related illness-reminders about drinking enough fluids, scheduling rest breaks, planning for and knowing what to do in an emergency, adjusting work operations, gradually building up the workload for new workers, training on heat illness signs and symptoms, and monitoring each other for signs and symptoms of heat-related illness.

Working in full sunlight can increase heat index values by 15 degrees Fahrenheit. Keep this in mind and plan additional precautions for working in these conditions.

The OSHA Heat Tool is available in Spanish for Android and iPhone devices. To access the Spanish version on the iPhone, set the phone language setting to Spanish before downloading the app.

Stay informed and safe in the heat, check your risk level.

For more information about safety while working in the heat, see OSHA’s heat illness webpage, including new online guidance about using the heat index to protect workers.

Fleet Management and Driver Safety Program

INTRODUCTION

Section 5(a)(1) General Duty Clause – Fleet and Driver Safety

OSHA does not have a standard for fleet and driver safety. However, the Occupational Safety and Health Act of 1970 at Section 5(a)(1), often referred to as the General Duty Clause, requires employers to “furnish to each of his employees employment and a place of employment which are free from recognized hazards that are causing or are likely to cause death or serious physical harm to employees.” Under the General Duty Clause, employers must take measures to protect employees from recognized, serious hazards related to employee use of motor vehicles.

Employees are expected to operate vehicles safely to prevent accidents which may result in injuries and property loss.

It is the company’s policy to provide and maintain a safe working environment to protect our employees and the citizens of the communities where we conduct business from injury and property loss. The company considers the use of motor vehicles as part of the working environment when the vehicles are being used for a business purpose. Management is committed to promoting a heightened level of safety awareness and responsible driving behavior in its employees. Management’s efforts and the commitment of employees will prevent vehicle accidents and reduce personal injury and property loss claims. This program requires the full cooperation of drivers to operate their vehicles safely and to adhere to the responsibilities outlined in the Driver Safety Program or Fleet and Driver Safety Program.

SCOPE AND APPLICATION

This document is intended to provide a detailed Fleet and Driver Safety Program for companies with professional drivers (DOT qualified and compliant), delivery truck drivers, and drivers of high-occupancy passenger vehicles such as limousines, 15-passenger vans and small buses.

Every 12 minutes, someone dies in a traffic crash, every 10 seconds an injury occurs, and every five seconds a crash occurs. More importantly, any one of these could happen to our employees. Regardless of organization, occupation, or vehicle use, almost certainly the most dangerous part of the workday for most people is the time they spend behind the wheel. According to the U.S. Department of Labor, the leading cause of death of workers in the United States is motor vehicle crashes.

Safe professional drivers know how to operate a vehicle properly. They do not make the common driving errors that cause most accidents. They also have learned to compensate for the lack of skill and attention of other drivers on the road who may otherwise involve them in an accident. Safe drivers can recognize accident-causing situations and take corrective actions to prevent them. This fleet and driver safety program will help protect employees from the hazards associated with driving motor vehicles on the job.

RESPONSIBILITIES

The President of Evolution Maintenance, Inc. has been assigned as Program Administrator. Management: Management is responsible for successful implementation and the on-going execution of this program. Though management has the ultimate responsibility for the implementation, maintenance and the success of this fleet and driver safety program, the responsibilities are being delegated to a named and documented Program Administrator, supervisors and employees.

Management will:

- Assign a Program Administrator.
- Establish measurement objectives to ensure compliance with the program.
- Develop formal, written hiring and qualification criteria.
- Communicate to employees the importance the organization places on safely operating company vehicles and how safety will be integrated into company business practices.
- Provide assistance and the resources necessary to implement and maintain the program.
- Ensure proper employee safety training.
- Establish and enforce safe operating rules and procedures.
- Ensure the safety and reliability of vehicles.
- Adopt for all drivers a set of standards that is fair and responsible.
- Develop a formal accident investigation process.

Program Administrator is responsible for the administration of this program and has full authority to make necessary decisions to ensure its success.

In addition, the Program Administrator is responsible for:

- Arranging for driver training, testing and medical evaluations, as needed or required.
- Maintaining a system that insures all employees operating vehicles have the proper class of license.
- Verifying that drivers have a company-acceptable motor vehicle record, as appropriate.
- Monitoring vehicle operations and ensure that drivers adhere to fleet safety rules.
- Reviewing all motor vehicle accident reports and motor vehicle records, as needed and appropriate.
- Ensuring that driver and vehicle records are maintained.

Supervisory responsibilities: Supervisors are responsible for ensuring that this program is implemented in their particular areas. In addition to being knowledgeable about the program

requirements, supervisors must also ensure that the program is understood and followed by the employees under their charge.

Additional duties of the supervisors include:

- Coordinating with the Program Administrator on how to address fleet hazards or other concerns regarding the program.
- Investigating and reporting all accidents involving a motor vehicle used in performing company business. Forward all accident reports to the Program Administrator.
- Being responsible for taking appropriate action to address unsafe driving behavior.
- Ensuring that unsafe vehicles are not driven until safety discrepancies have been corrected.
- Periodically riding with the drivers to check for compliance with operating instructions and traffic regulations.

Employee responsibilities include:

- Always operate a motor vehicle in a safe manner as explained under the section titled, "Driver Safety Regulations."
- Maintain a valid driver's license for the vehicle to be operated.
- Maintain assigned vehicles according to established maintenance standards.
- Participate in required training programs.
- Adhere to all policies and procedures governing the operation of the vehicle.
- Ensure safe operation of all vehicles and equipment.
- Conduct and document, as required, pre-trip and post-trip inspections, including defect reports.
- Submit any accident reports and defect reports.
- Keep the Program Administrator or designee advised of changes in license or driving status, including but not limited to loss of driver's license through lapse or penalty, or suspension or revocation of driving privileges in any state.
- Prohibit the use of assigned vehicles by anyone not authorized to drive a company vehicle.

DRIVER SELECTION, AUTHORIZATION AND REVIEW

1. Driver Evaluation:

Only authorized drivers/employees will be allowed to operate a company vehicle. The authorization process may include initial and periodic review of qualifications, operating records and driving ability.

To evaluate employees as drivers, management may:

- A. Review past driving performance and work experience through previous employers' reference checks, consistent with applicable law. See "Application Addendum for Employment Requiring Driving" in the Appendix.
- B. Review the job applicant/employee's Motor Vehicle Record (MVR), consistent with applicable law.
- C. Ensure the employee has a valid driver's license for the type of vehicle to be operated.
- D. Ensure the employee is qualified to operate the type of vehicle he/she will drive.

2. Road Tests:

To ensure a driver applicant/employee is qualified to operate the type of vehicle he/she will drive, a road test may be required. See "Driver Evaluation Road Test" in the Appendix.

3. Driver Qualification:

Management has developed and incorporated standards into this program that reflect the skills necessary for satisfactory job performance while taking into consideration applicable federal and state regulations.

There are three levels of driver qualification criteria. Use of any or all of these criteria is dependent upon the nature and scope of the driving requirements.

- A. State-regulated driver qualification parameters must be met. Regulatory information will be obtained from applicable state departments of transportation and motor vehicle services.

ACCIDENT RECORDKEEPING, REPORTING AND ANALYSIS

1. The company considers elimination of motor vehicle accidents as a major goal. To meet this objective, all accidents must be reported to management and will be investigated, documented and reviewed by the Program Administrator. The investigation identifies needs for:

- A. A more intensive driver training and/or remedial training.
- B. Improved driver selection procedures.
- C. Improved vehicle inspection and/or maintenance activities.
- B. Commercial Drivers License

D. Changes in traffic routes. Some company jobs may require employees to obtain a Commercial Drivers License (CDL) as part of their job duties. If a CDL is required, the driver is expected to follow state regulations and federal Department of Transportation (DOT) guidelines, rules and regulations.

C. DOT Federal Highway Administration's Federal Motor Carrier Safety Regulations. These include the following:

- Drivers involved in intrastate or interstate operations with GMVR of 26,001 pounds or more must have a CDL license and be enrolled in a DOT Drug and Alcohol Testing Program.

2. Motor vehicle accident recordkeeping procedures consist of the following components:

- A. Documentation of causes and corrective action.
- B. Management review to expedite corrective action.
- C. Analysis of accidents to determine trends, recurring problems and the need for further control measures.

3. Responsibility:

A. Driver

Since the driver is the first person at the accident scene, he/she will initiate the information-gathering process as quickly and thoroughly as is feasible.

B. Management

Management will obtain accident data from the driver. See the "Vehicle Accident Report" form in the Appendix. Management will immediately proceed with a formal investigation to determine the underlying causes as well as what can be done to prevent similar occurrences.

ACCIDENT INVESTIGATION PROGRAM

The Program Administrator will develop an accident investigation program, the purpose for which is to learn the lessons that these accidents present and to initiate corrective actions. Programs that focus solely on establishing fault for preventable accidents can overlook other contributing factors and solutions. There should be an internal accident report form that includes driver input along with a police report if applicable.

VEHICLE SELECTION, INSPECTION AND MAINTENANCE 1. Introduction:

Proper selection and maintenance of equipment are important aspects of this program. Reduced operational costs and accidents from vehicle defects are the direct result of a well-implemented maintenance policy.

2. Vehicle Selection:

Selection of vehicles begins with understanding that the wrong equipment can result in excessive breakdowns, create hazards to personnel, incur costly delays and contribute to poor

service and customer complaints. The company will purchase vehicles designed for their intended use.

3. Vehicle Inspection:

The employee responsible for the vehicle will inspect the vehicle semi-annually using the appropriate Vehicle Inspection Report form (see Appendix) and forward the report to the Program Administrator. More frequent inspections may be required based on heavy use or the type of vehicle being operated.

4. Vehicle Maintenance:

The goal of the vehicle maintenance program is to prevent mechanical or physical breakdowns that could result in vehicle damage and driver injury. Preventive maintenance (PM) is performed on a mileage or time basis. Typical PM includes oil/filter changes, lubrication, tightening belts and components, engine tune-ups, brake work, tire rotation, hose inspection/replacement and radiator maintenance. The PM program will match or exceed the frequencies of the vehicle's manufacturer. The Program Administrator will maintain a vehicle maintenance log on each company vehicle (see Appendix).

5. Recordkeeping:

This company's vehicle selection, inspection and maintenance program is only as good as its recordkeeping procedures. Employees will forward all records for vehicle maintenance performed to the Program Administrator.

DRIVER SAFETY REGULATIONS 1. Seat Belts:

All employees must wear seat belts when operating a company-owned vehicle or on company business.

2. Impaired Driving:

The driver must not operate a vehicle at any time when his/her ability to do so is impaired, affected, influenced by alcohol, illegal drugs, prescribed or over-the-counter medication, illness, fatigue or injury.

3. Traffic Laws:

Drivers must abide by the federal, state and local motor vehicle regulations, laws and ordinances.

4. Vehicle Condition:

Drivers are responsible for ensuring the vehicle is maintained in safe driving condition.

5. Cellular Telephones, iPhones and other electronic devices:

The use of cell phones and other electronic communication devices while driving is a source of driver distraction that has caused serious accidents. Various states and local jurisdictions have

enacted laws restricting or prohibiting cell phone use while driving. Our policy recognizes the sometimes necessary use of these devices but restricts their use as follows:

Employees who have access to a cellular telephone while operating a vehicle should remember that their number one priority is driving safely and obeying the rules of the road. Cell phones should be used only in the following manner:

1. To place a call, find a safe place to pull off of the roadway.
2. To receive a call while driving, let the call go to voice mail, then return the call when safely off the road.

Alternatively, drivers may use phones that are specifically designed and configured to allow hands-free listening and talking to accept calls while driving. Long, detailed, or distracting conversations should be avoided. Drivers using hands-free telephones to place calls still must find a safe place to pull off of the roadway. This alternative does not apply if using a cell phone while driving is prohibited by state law or local ordinance.

Under no circumstances is it permissible to email, text, tweet, search on the internet, access social media, or use any other cell phone application while driving.

All employees are expected to follow applicable state or federal laws or regulations regarding the use of cell phones at all times.

TRAINING

1. Drivers hired by this company to operate a motor vehicle will have the basic skills and credentials necessary to perform this function as confirmed through the driver selection process.
2. A formal orientation program has been established to help assure that all drivers are presented with the company policy, understand their responsibilities and are familiarized with their vehicle.
3. A formal safety training program, initial and ongoing has been established to help assure that all drivers operate vehicles safely and in accordance with this program. The safety training will cover, at a minimum, the following topics:
 - a. Speeding
 - b. Intersections
 - c. Improper lane use
 - d. Braking
 - e. Turning
 - f. Passing and signaling
 - g. Following distance

- h. Stopping
- i. Parking
- j. Distracted driving
- k. Routes and schedules
- l. Weather-related road hazards
- m. Vehicle inspection and maintenance

PROGRAM EVALUATION

Program evaluations shall be performed at least annually by the Program Administrator to ensure that the provisions of the program are effective. Employees shall be interviewed periodically to assess program effectiveness.

RECORDKEEPING

The Program Administrator will maintain the following files/records for our organization's fleet and driver safety program:

Employment Information: This information will furnish insight into a person's past employment record, general driving characteristics and tested driving knowledge and skills. Records in this section will include:

- Completed employment application form
 - Accident experience and record of violations, if any
 - Physical examination report, if required by licensing regulations or company policy
 - Safe driving records/awards
 - Warning notices or citations
 - MVR updates
 - Any performance appraisals as related to driving duties
- Vehicle Records Maintaining current and accurate records of company vehicles is a critical part of the fleet recordkeeping system. As with driver records, a separate file folder will be kept for each vehicle. Records shall include specific vehicle information, as well as data pertaining to the vehicle's condition and maintenance.
- Driver training information
 - Documentation of written and/or road test results
 - A list of all licenses held

- Results of any substance abuse testing

Job Performance Information: This section supplies a running chronicle of a driver's past and present performance. It gives a foundation on which to base training needs and development opportunities, promotion potential, rule enforcement needs, and incentive awards. The following information can be maintained in this section of the driver's file:

By keeping specific vehicle information, one can order parts and accessories more efficiently. Information should include: vehicle make, model, serial number, and tire information, including style and number.

Preventive and corrective maintenance records can help measure the effectiveness of the maintenance program. These records should provide an overview of the conditions, maintenance, and maintenance costs of each vehicle. Records applicable to this file should contain:

- Mechanic's inspection report at designated intervals
- Lubrication records, including grease, oil and filter changes
- Periodic reports from supervisors
- Maintenance records of vehicle repairs
- Record of verbal and written commendations
- Copies of driver inspection records
- Accident reports
- Documentation of any retraining, retesting or re-certification
- Complaints received about the driver from various sources
- Type of vehicle assigned to the driver and any other vehicle the driver is qualified to operate
- Reports of road observations

Review Records Periodically: It is essential that these records be reviewed periodically. An analysis of these records will enable management to determine the type, quantity and quality of work being performed. They also serve as a good indicator of vehicle abuse. In addition, they will allow management to see if reported defects are being repaired in a timely manner.

Accident Records

A central file can be used to maintain all accident data. By effectively using accurately recorded accident information, the Company can prevent future accidents.

Accident Reporting: To obtain complete and accurate data after an accident, drivers should follow specific procedures. The driver should gather information at the accident scene on an

accident report form. It is therefore vital that the accident report form clearly requests the specific information needed, including:

- Where the accident occurred. (A diagram should be drawn indicating the position and direction of travel of all vehicles involved. Any other pertinent information, such as street names, traffic control devices, obstacles, and pedestrians should also be accurately placed on the diagram.)
- Other drivers, passengers, pedestrians, and witnesses.
- All vehicles involved, including any that may not have been hit, but that contributed to the circumstances.
- Weather conditions, road conditions, special traffic situations.
- Complete accounts of what happened.
- Date and time of accident.

Appendix A - Vehicle Assessment Agreement

The undersigned hereby acknowledges receipt of a company-owned or leased automobile. I understand this vehicle is to be regularly maintained and serviced, according to the service schedule outlined in the Owner's Manual or the instructions issued by the Program Administrator, whichever is appropriate.

Further, it is agreed that this vehicle will be operated in a safe manner. I agree to wear my seat belt whenever the vehicle is in motion and will require other occupants to do so. I agree to promptly report all accidents or incidents resulting in injury or damage to the vehicle or other property within 24 hours, no matter how slight. I understand I am required to maintain a valid driver's license.

I understand I am not to modify the vehicle in any way without written permission. This specifically applies to the installation of cellular telephones, radios, CBs, speakers, etc. Further, trailer hitches and towing trailers are specifically prohibited. Further, I will not take this vehicle out of the United States without written permission from the Program Administrator.

I understand the operation of this vehicle in a safe operating condition is my responsibility. If this vehicle becomes unsafe, it is my responsibility to notify the Program Administrator immediately.

I have read and agree to the provisions of this Vehicle Assignment Agreement and the requirements of the Fleet and Driver Safety Program.

| | |
|-----------|-------|
| _____ | _____ |
| SIGNATURE | DATE |

VEHICLE ASSIGNED: _____
VIN NUMBER: _____
PLATE NUMBER: _____
MILEAGE: _____

Appendix B - Application Addendum for Employment Requiring Driving

COMPANY _____

ADDRESS _____

NAME _____ PHONE: (_____) _____

First Middle Last

DRIVER LICENSES: (list all licenses held in past 3 years and indicate those that are current)

| STATE | LICENSE NUMBER | CLASS | ENDORSEMENT(S) | EXPIRATION |
|-------|----------------|-------|----------------|------------|
| | | | | |
| | | | | |
| | | | | |

Have you ever been denied, or had revoked or suspended any license, permit, or privilege to operate a motor vehicle?

Yes No

If you answered YES to the above questions, give details: (if additional space is needed, attach sheet)

TRAFFIC CONVICTIONS AND FORFEITURES FOR PAST 3 YEARS: (Other than parking)

| LOCATION (CITY & STATE) | DATE | CHARGE | PENALTY |
|-------------------------|------|--------|---------|
| | | | |
| | | | |
| | | | |

Appendix C - Application Addendum for Employment Requiring Driving

DRIVING EXPERIENCE:

| CLASS OF EQUIPMENT | DATES | | APROX. NO. OF TOTAL MILES |
|--------------------|-------|----|---------------------------|
| | FROM | TO | |
| Automobile | | | |
| Van/Pickup | | | |
| Truck/Tractor | | | |
| Bus | | | |
| Other (Specify) | | | |

ACCIDENT RECORD FOR PAST 3 YEARS: (if additional space is needed, attach sheet)

| DATE | LOCATION | NATURE OF ACCIDENT | FATALITIES | INJURIES |
|------|----------|--------------------|------------|----------|
| | | | | |
| | | | | |
| | | | | |

GENERAL:

Have you ever been convicted of a felony? Yes No

Have you ever been refused bond Yes No

If you answered YES to either question, give details: (if additional space is needed, attach sheet)

LIST SPECIAL TRAINING RELATED TO TRANSPORTATION:

(If additional space is needed, attach sheet)

TO BE READ AND SIGNED BY APPLICANT:

This certifies that this application was completed by me, and that all entries on it and information in it are true and complete to the best of my knowledge. I understand that, if hired, any misrepresentation of information in this application is cause for immediate dismissal. I authorize (INSERT COMPANY NAME HERE) to investigate my background to ascertain all information of concern to my employment history, whether same is of record or not, and release those providing such information from all liability for any damages resulting from furnishing this information. Further, I understand that I may be asked to demonstrate my ability to perform the essential functions necessary to complete the job and, if offered the job, that it may be conditioned on results of a physical examination, and controlled substances and alcohol misuse test.

DATE:_____ APPLICANT'S SIGNATURE _____

Appendix D - Vehicle Inspection Report

This report is due during the months of _____ and _____ each year. A separate report must be completed for each unit. After completion this report should be forwarded to:

Date: _____

Vehicle unit number: _____ License number: _____ Mileage: _____

Branch and Department number: _____ Driver: _____

Reporting office: _____ Department: _____

Year: _____ Make: _____ Model: _____

INSPECT AND CHECK ONE:

Lights

| | | | | | |
|--------------|----|-----|-----------|----|-----|
| Head: | OK | Out | Back-up: | OK | Out |
| Parking: | OK | Out | Side: | OK | Out |
| Tail: | OK | Out | Flashers: | OK | Out |
| Directional: | OK | Out | | | |

Tires

| | | | | | | | |
|---------------------|------|------|------|--------------|------|------|------|
| Front left: | Good | Fair | Poor | Front right: | Good | Fair | Poor |
| Rear left: | Good | Fair | Poor | Rear right: | Good | Fair | Poor |
| Conventional Spare: | Good | Fair | Poor | Snow tires: | Yes | No | |
| Mini spare: | Yes | No | Good | Fair | Poor | | |

Note and explain uneven wear: _____

Brakes

Check for master cylinder leaks. If unusual conditions, explain: _____

Check brake pedal: High Low

Comments: _____

Check brake fluid: Full Low

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Exterior

Paint, overall condition: ☐ Good ☐ Fair ☐ Poor

Chrome, overall condition: ☐ Good ☐ Fair ☐ Poor

Glass, overall condition: ☐ No damage ☐ Damage

Explanation of overall exterior condition: _____

Nonstandard ornamentation or equipment? (decals, trailer hitch, etc.) ☐ Yes ☐ No

If "Yes," describe _____

Exterior damage? ☐ Yes ☐ No

If "Yes," note and explain estimated cost of repairs: _____

If "Yes," was claim submitted? ☐ Yes ☐ No

If "No," why not: _____

Interior

Overall appearance: ☐ Clean ☐ Worn ☐ Dirty

Condition of seats: ☐ Good ☐ Sagging ☐ Springs broken

Condition of upholstery: ☐ Clean ☐ Worn ☐ Dirty ☐ Torn ☐ Burn holes

Condition of carpets: ☐ Clean ☐ Worn ☐ Dirty ☐ Torn

Floor mats: ☐ Yes ☐ No

Windshield wipers: ☐ Good ☐ Fair ☐ Poor

Knobs, handles, etc.: ☐ Good ☐ Broken ☐ Missing

Evolution Maintenance 2018 Safety Plan with 2021 & 2024 Supplement

Accessories:

| | | | | |
|-------------------------------------|--------------------------|---------|--------------------------|------------|
| Flash light: | <input type="checkbox"/> | Yes | <input type="checkbox"/> | No |
| Horn working: | <input type="checkbox"/> | Yes | <input type="checkbox"/> | No |
| Safety belts: | <input type="checkbox"/> | Working | <input type="checkbox"/> | Nonworking |
| Windshield scraper: (if applicable) | <input type="checkbox"/> | Yes | <input type="checkbox"/> | No |
| Rear window defroster: | <input type="checkbox"/> | Working | <input type="checkbox"/> | Nonworking |
| Accident report kit: | <input type="checkbox"/> | Yes | <input type="checkbox"/> | No |
| Driver's manual: | <input type="checkbox"/> | Yes | <input type="checkbox"/> | No |

Condition of trunk: ☐ Clean ☐ Dirty

Accessories in Trunk:

| | | | | |
|-----------------------------|--------------------------|-----|--------------------------|----|
| Jack: | <input type="checkbox"/> | Yes | <input type="checkbox"/> | No |
| Handle and base: | <input type="checkbox"/> | Yes | <input type="checkbox"/> | No |
| Lug wrench: | <input type="checkbox"/> | Yes | <input type="checkbox"/> | No |
| Flares or reflectors (2-6): | <input type="checkbox"/> | Yes | <input type="checkbox"/> | No |

Under Hood

Engine: ☐ Clean ☐ Dirty

Note apparent leakage: _____

Engine oil: ☐ Full ☐ Low

Condition: _____

Mileage of last oil change: _____ Mileage of last filter change: _____

Mileage of last lubrication: _____

Windshield washer fluid: ☐ Full ☐ Low

Battery water level: ☐ Full ☐ Low

Non-fillable: ☐ Yes ☐ No

Transmission fluid condition: ☐ Full ☐ Low Color: ☐ Red ☐ Black

Power steering fluid: ☐ Full ☐ Low

Overall Rating of Car

Excellent Good Ifair Poor

Driver's comments:

Inspector's comments and recommendations:

Inspector's signature:_____

Branch/Fleet Coordinator signature:_____

Driver's signature:_____

Scheduled completion date of corrective action:_____

Appendix E – Vehicle Maintenance Log

| Vehicle # | Year, Make & Model | | | VIN # |
|---|--------------------|----------------|------------------|---------------|
| At 4 months or 3,000 miles (whichever is first) | | | | |
| Action | Date | Mileage | Inspector | Vendor |
| <ul style="list-style-type: none"> • Complete chassis lubrication • Check and top off all fluid levels • Check/replace wipers • Change oil and replace oil filter | | | | |
| At 8 months or 6,000 miles (whichever is first) | | | | |
| Action | Date | Mileage | Inspector | Vendor |
| <ul style="list-style-type: none"> • Inspect cooling system • Check suspension and steering system • Adjust all drive belts/replace worn or damaged ones • Inspect/adjust brakes as may be required • Inspect/adjust clutch as may be required • Tighten wheel lugs • Check grease seal and lubricate wheel bearings • Check and tighten all shackles, U-bolts and fastenings on body • Check exhaust system for leaks, looseness, repair as necessary • Check and rotate tires | | | | |
| At 12 months or 12,000 miles (which ever is first) | | | | |
| Action | Date | Mileage | Inspector | Vendor |
| <ul style="list-style-type: none"> • Complete engine tune-up • Check and adjust throttle linkage • Check and adjust front wheel alignment-balance • Check belts and hoses/replace worn or damaged ones • Check function of heater and defroster • Check cab and fender mounts • Clean underbody and check | | | | |

Appendix F – MVR Release Consent Form

As explained in our company's Fleet and Driver Safety Program, drivers seeking authorization to operate a company vehicle and employees who regularly use their personal vehicle for company business must sign a release to authorize our company's insurance company to review his/her MVR. This requirement applies to any employee, students, volunteers, spouses or family members seeking to operate a company-owned or personal vehicle for company business. The MVR authorization allows the company to periodically check my MVR, which in most cases will be annually.

() Employee () Volunteer () Family Member () Job Applicant () Other

I consent to the release of my Motor Vehicle Records (MVR) to the company. I understand the company will only use these records in connection with matters of motor vehicle or driver safety that may be related to the position for which I hold, am applying for, or volunteering for. Furthermore, I understand that both the Company and its Commercial Business Auto Policy insurance carrier have established standards for driver's MVR that must be met to qualify me to operate a company vehicle or to use my personal vehicle for company business and that this information may result in my being ineligible to drive for the Company or use my personal vehicle for company business. I also understand that release of the MVR does not necessarily mean I will be hired for a driving, or any other position.

I understand that our company and its agents cannot guarantee the accuracy of any information reported to it by third parties. I release the company and its agents from liability for damages that arise from errors or omissions in this authorized inquiry of my driving history and/or driver's license.

Any applicant or employee who refuses to complete this form, omits material facts, or provides false information, will not be considered to operate a company vehicle or use his/her personal vehicle while employed at the company.

This consent is given in satisfaction of Public Law 18 USC 2721 et. seq., "Federal Drivers Privacy Protection Act", and is intended to constitute "written consent" as required by this Act.

Signed (applicant) _____

Date: _____

Address: _____

City/State: _____

Zip Code: _____

Drivers' License Number : _____

State Issued* _____

If licensed in the current state for less than 3 years, provide prior license number and state of issuance.

Social Security Number _____

Day of Birth: _____

Appendix G – Driver Evaluation Road Test

BACKING AND PARKING:

Avoids backing from blindside

Yes No

Uses mirrors properly

Yes No

Parks legally

| Yes No

Checks entire area, including overhead before backing

| Yes No

INTERSECTIONS:

Checks in all direction for traffic conditions

Yes No

Prepares to stop even if traffic signal is green

Yes No

Stops vehicle in proper location when required

Yes No

Does not allow the vehicle to roll when stopped

Yes No

Makes sure vehicle is in proper lane for turn

Yes No

Signals intention to turn well in advance

| Yes No

Approaches turn at proper speed

| Yes No

Checks traffic conditions and turns safely

| Yes No

Keeps vehicle in proper lane during the turn

| Yes No

PASSING:

Only passes in a safe place, where legally permitted

Yes No

Checks ahead and behind to make sure passing room is adequate

Yes No

Uses directional signals properly

Yes No

Leaves sufficient space between passed vehicle before moving back into lane

| Yes No

Does not exceed speed limit

| Yes No

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CELL PHONE:

Uses only when safely stopped
Yes No

This is to certify that the above-mentioned driver applicant/employee was given a road test under my supervision.
It is my considered opinion that the above-mentioned individual does does not possess sufficient driving skills
to operate the type of commercial or personal vehicle listed above.

Comments:

| | |
|------------------------|---------------------|
| _____ | _____ |
| SIGNATURE OF EVALUATOR | SIGNATURE OF DRIVER |

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DRIVER'S NAME _____

LICENSE # _____ STATE _____

TEST DATE _____ WEATHER CONDITIONS _____

TYPE/VEHICLE BEING OPERATED _____

STARTING MILES _____ ENDING MILES _____ MILES DRIVEN _____

PRE-TRIP INSPECTION CHECK LIST:

General condition of vehicle

Yes No

Condition of tires

Yes No

Proper operation of parking and brakes

Yes No

Horn and windshield wipers

Yes No

Steering

Yes No

Rear view and side view mirror adjustment

Yes No

All lighting devices and reflectors

Yes No

Emergency equipment

Yes No

PLACING VEHICLE IN OPERATION:

Uses seat belt

Yes No

Drives with both hands on the wheel

Yes No

Starts vehicle properly

Yes No

Steers smoothly

Yes No

Checks traffic patterns

Yes No

Maintains proper speed for conditions, and
within speed limit

Yes No

Does not allow vehicle to roll while stopped

Yes No

Appendix H – Vehicle Accident Report

ACCIDENT DATE (MM/DD/YY) _____ TIME OF ACCIDENT _____ AM _____ PM
ACCIDENT LOCATION _____ CITY/STATE _____

REASON FOR TRAVELING:

☐ Pick-up ☐ Delivery ☐ Personal time ☐ To job site ☐ From job site

WEATHER CONDITIONS:

☐ Clear ☐ Rain ☐ Snow ☐ Ice ☐ Sleet ☐ Fog ☐ Cloudy ☐ Smoke

ROAD SURFACE:

☐ Wet ☐ Dry ☐ Uneven ☐ Concrete ☐ Asphalt ☐ Gravel ☐ Bridge

Lanes divided? ☐ Yes ☐ No Number of lanes _____

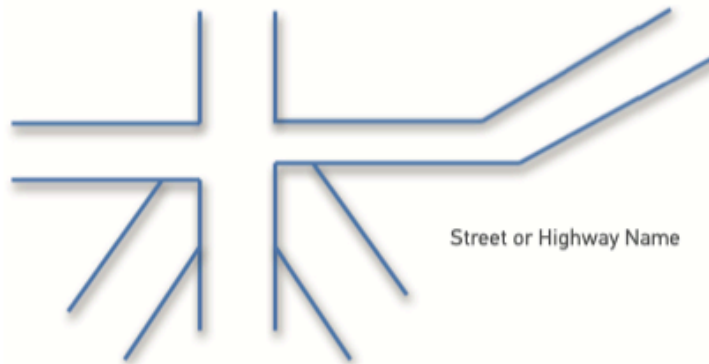
Traffic control device? _____

Number of hours on duty _____ Numbers of hours driving _____

Give a detailed description of accident. Referred company/personal vehicle as "No. 1", others as "No.2 No.3", etc.:

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Indicate on this diagram what happened. Use one of these outlines to sketch the scene of your accident, writing in street or highway names or numbers. Show signs, signals, warning and traffic controls.



INJURED PARTY:

Where there any injuries? ☐ Yes ☐ No

Did injuries require medical treatment at/away from the accident scene? ☐ Yes ☐ No

NAME _____

ADDRESS _____

LOCATION (CITY & STATE) _____ (ZIP CODE) _____

PHONE: (_____) _____

What vehicle was injured person in? ☐ Unit 1 ☐ Unit 2 ☐ Unit 3 ☐ Other

If other, please explain:

Was injured party taken to the hospital? ☐ Yes ☐ No

Name of Hospital _____

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INJURED PARTY:

Where there any injuries? Yes No

Did injuries require medical treatment at/away from the accident scene? Yes No

NAME _____

ADDRESS _____

LOCATION (CITY & STATE) _____ (ZIP CODE) _____

PHONE: (_____) _____

What vehicle was injured person in? Unit 1 Unit 2 Unit 3 Other

If other, please explain:

Was injured party taken to the hospital? Yes No

Name of Hospital _____

OSHA 1910.178 - Powered Industrial Trucks

SCOPE AND APPLICATION

Material handling is a significant safety concern and injuries and property damage can occur if proper procedures are not used. OSHA requires that all employers using powered industrial trucks implement a program in accordance with OSHA 29 CFR 1910.178. For the purpose of compliance with OSHA standards, this program applies to all powered industrial vehicles, including forklifts, order pickers, reach trucks, and electrically powered pallet jacks.

Only trained and authorized personnel are allowed operate powered industrial trucks. Authorized individuals are those who have completed training at Our Company on the equipment they are to operate.

Our Powered Industrial Vehicle Program contains the following elements:

- Assignment of Responsibilities
- Operator Training
- Pre-Use Inspections
- Operating Procedures
- Maintenance Procedures
- Fueling Procedures
- Program Audit
- Recordkeeping

These are described in detail to the right.

ASSIGNMENT OF RESPONSIBILITIES

Management Responsibilities

- Provide equipment that is safe to operate
- Not allow modifications to equipment except those authorized by the equipment manufacturer
- Ensure adequate operator safety training is provided on all equipment used to move materials
- Establish and enforce safe operating rules and procedures The Program Administrator for our Powered Industrial Vehicle Program is: The Program Administrator will: Daniel Stone
- Ensure equipment is safe to operate
- Not allow modifications to equipment except those authorized by the equipment manufacturer

- Ensure proper powered industrial vehicles/forklift training is provided and certify that each operator was trained and evaluated
- Establish and enforce safe operating rules and procedures
- Conduct an annual review of the program

Supervisor Responsibilities

- Designate and identify employees responsible for operating powered industrial vehicles
- Monitor the safe operation of the powered industrial equipment
- Ensure that no employees under their direction operate a powered industrial vehicle/forklift without proper certification
- Ensure that operator retraining is conducted when appropriate
- Ensure that all equipment is inspected daily
- Ensure that any damaged equipment is tagged “out of service” or otherwise made inoperable
- Ensure that equipment is repaired when malfunctioning
- Operate only the equipment for which they were specifically trained and authorized
- Conduct required daily pre-use inspections
- Report any equipment damage or other unsafe conditions affecting the safe operation of the equipment
- Attend applicable training sessions
- Follow all safety rules and operating procedures

OPERATOR TRAINING

Train employees prior to operating the vehicles in the workplace. Training will consist of a combination of formal instruction and practical training. Practical training includes a demonstration performed by the trainee to show their proficiency operating the vehicle. Conduct all operational training and evaluation under close supervision. Successfully complete all training and evaluation before an operator is permitted to operate the vehicle without continual and close supervision.

Our Company will certify that each operator was trained and evaluated. The certification includes the name of the operator, the date of the training, the date of the evaluation, and the identity of the person(s) performing the training or evaluation.

If an operator previously received training that is relevant to the vehicle and working conditions encountered, additional training is not required if the operator was evaluated and found competent to operate the vehicle safely.

Our Company will provide the hands-on skills evaluation to ensure operator competency and safe operating procedures are followed.

Prior to completing operator training, the trainee may operate a vehicle only:

- Under the direct supervision of a person selected by management who has the knowledge, training, and experience to evaluate their competence.
- Where the operation of the vehicle does not endanger the trainee or other employees.

Annual retraining is not required. Conduct an evaluation of the operator's driving performance at least every three years and after refresher training when appropriate. Refresher training is required when:

- The operator was observed operating a vehicle in an unsafe manner.
- The operator was involved in an accident or near miss.
- The operator received an evaluation indicating that he or she is not operating the vehicle safely.
- The operator is assigned to drive a different type of vehicle.
- A condition in the workplace changes in a manner that could affect safe operation of the vehicle.

TRAINING PROGRAM CONTENT

The contents of the training session include information on the characteristics of the powered industrial vehicle the employee will operate and the characteristics of the environment in which the vehicle is operated. Employers must also be trained in the requirements of 29 CFR 1910.178 (I). The following information is covered in the training session. Characteristics of the vehicle the employee is allowed to operate

- Operating instructions, warnings, and precautions
- Differences between an automobile and the powered industrial vehicle
- Location and function of the controls and instrumentation
- Engine or motor operation
- Steering and maneuvering
- Visibility
- Operation and limitations of the forks and/or attachments
- Vehicle capacity and stability
- Vehicle inspection and maintenance procedures

- Refueling or charging/recharging batteries
 - Operating limitations
 - Safety equipment
 - Any other operating instructions, warning, or precautions listed in the operator's manual
- The operating environment
- Floor surfaces and/or ground conditions where the vehicle is operated
 - Composition of probable loads and load stability
 - Load lifting, stacking, and unstacking
 - Traveling with a load
 - Pedestrian traffic
 - Narrow aisle and restricted space operation
 - Operating in hazardous locations
 - Operating the vehicles on ramps or other sloped surfaces that would affect their stability
 - Operating the vehicle when driving into a trailer including the proper use of dock plates/ramps, trailer safety, and choking/blocking the trailer wheels
 - Other unique or potentially hazardous environmental conditions that exist or may exist in the workplace
 - Operating the vehicle in closed environments and other areas where insufficient ventilation and/or poor vehicle maintenance could cause a buildup of carbon monoxide or diesel exhaust
- The evaluator conducting the operator assessment will use the appropriate evaluation form(s) in Appendix C, D or E.

PRE-USE INSPECTIONS

Inspect all powered industrial vehicles prior to use. Perform the inspection at least daily. When powered industrial vehicles are used on a round-the-clock basis, the inspection must occur at the start of each shift. If the operator finds a defect, the operator must report the problem(s) immediately to their supervisor. In general, the following items are included in the pre-use inspection:

- Check all fluid levels/pressures
- Leaks
- Steering
- Brakes

- Fuel/battery level
- Tires
- Hoses/belts/cables
- Horns/alarms
- Mast/forks
- Gauges/controls
- Overhead cage

Document each inspection, using the inspection check list located in either Appendix A or Appendix B. If unsafe conditions are noted during the inspection, remove that vehicle from use until the deficiencies are corrected.

OPERATING PROCEDURES

The proper way to mount and dismount a forklift is to face the truck and use a three-point stance with two hands on the truck and one foot in contact with the floor or truck at all times. Never jump on or off the forklift.

Become familiar with the location and function of all controls. Controls may vary from unit to unit. If the forklift is equipped with a seat belt, the operator must wear the seatbelt while operating the vehicle. This is an important safety feature that will protect the operator in case of an accident.

Picking up a Load

- Make sure the load does not exceed the capacity of the forklift.
- Make sure the forks are positioned properly.
- Make sure the load is balanced and secure.
- Check for overhead obstructions.
- Raise the forks to the proper height.
- Drive into the load as far as possible.
- Tilt the load back slightly and then lift it.
- Back up (look over both shoulders before backing up) and lower the load two to four inches from the floor before moving.

Traveling with a Load

- Pedestrians always have the right-of-way.

- Never allow anyone to ride on the forklift.
- If the load blocks or obscures vision, drive the vehicle backwards to ensure that there is a clear field of vision.
- Keep the forks low, two to four inches above the floor if possible.
- Keep the load tilted back slightly.
- Always drive at a safe speed, and slow down when going around corners.
- Sound the horn when approaching aisles and corners.
- Always drive up and back down ramps and inclines.
- Avoid sudden braking.
- Lift or lower the load only when completely stopped, never when traveling. Placing a Load
- Stop the forklift completely before raising the load.
- Move slowly with the load raised.
- Never walk or stand under a raised load.
- Tilt the load forward, only when over a stack or rack.
- Be certain the forks clear the pallet before turning or changing height.
- Always stack the load square and straight.
- Before backing, check behind and on both sides for pedestrians or other traffic.
- Unusually shaped loads, such as rolls, may require special stacking. Be aware of the requirements before picking up these loads.

Entering a Trailer, Truck, or Railcar

- Employees are prohibited from driving a vehicle into a trailer, truck, or railcar unless authorized and trained to do so.
- Before entering a trailer, truck, or railcar, make sure the brakes are set. Place wheel chocks at both rear wheels to prevent movement of the trailer away from the dock. Chocks should always be used on the trailers regardless of the status of the truck.
- Before driving into a trailer or truck, check the deck of the trailer for signs of weakness or breakage.
- Use dock board/dock plate or dock leveling devices for safe access into the trailer.
- Check to see that the load and the powered industrial truck must clear trailer/railcar before attempting to enter.

- If the trailer is not secured to a tractor, make sure the trailer jacks are secured at the front corners of the trailer to prevent upending or corner dipping.
- If dock locks or other fixed trailer restraining equipment is used, make sure it is fully engaged before entering the trailer.

UNATTENDED VEHICLES

A powered industrial vehicle is considered unattended when the operator is 25 feet or more from the vehicle (when the vehicle remains within the view of the operator) or whenever the operator leaves the vehicle and it is not in the operators' view.

When a vehicle is unattended:

- Turn off the engine
- Remove and secure the keys
- Fully lower the forks
- Put the vehicle in neutral or park
- Apply the parking brake
- Turn the propane cylinder valve off

MAINTENANCE PROCEDURES

Repairs:

- Remove any powered industrial truck/forklift truck not in a safe operating condition from service. Only authorized personnel utilizing lockout/tagout procedures are permitted to repair industrial trucks/forklifts.
- Conduct repairs to the fuel and ignition systems which involve fire hazards only in designated locations for such repairs.
- Replace all parts requiring replacement only with parts equivalent to those used in the original design.
- Do not alter powered industrial truck/forklift trucks so that the relative positions of the various parts are different than what they were when originally received from the manufacturer.
- Do not add additional counterweighting unless approved by the manufacturer.
- Trucks in need of repairs to the electrical system must have the battery disconnected prior to the repair work.

- If the temperature of any part of the powered industrial truck/forklift truck is found in excess of normal operating temperature, remove the powered industrial truck/forklift from service until the overheating is eliminated.
- Keep powered industrial truck/forklift trucks in a clean condition, free of lint and excess oil/grease.
- When antifreeze is used in the engine-cooling system, only use glycol-based material.

FUELING PROCEDURES

Propane

- Always wear the proper personal protective equipment when changing tanks. This includes protective eyewear, gloves and long sleeve shirts.
- Shut valve off to use up propane in the line before changing tanks.
- Shut off the ignition after engine stops.
- Do not change tanks near an open flame or heat source. (No smoking allowed in this area.)
- Propane is heavier than air, and it will settle to the floor if there is a leak.
- Check the condition of all valves and seals before connecting the new tank.
- Handle tanks carefully. Propane can cause a “freeze” burn if it comes in contact with your skin.
- Do not store tanks in areas where leaking propane gas might accumulate. Gasoline or Diesel

- Always wear the proper personal protective equipment when fueling your powered industrial truck/forklift. This includes protective eyewear and gloves.
- Shut off the engine.
- Be sure to use the proper fuel.
- Avoid overfilling the tank.
- Clean up any spills following proper safety procedures for fuel spills.
- Check for any leaks.
- Replace the fuel cap.

Batteries

- Always wear the proper personal protective equipment when changing the battery. This includes protective eyewear and gloves
- Be aware of the nearest flushing station
- Shut off the engine
- Do not smoke or have an open flame in the battery changing area
- Do not locate battery charging stations within 36 inches of electrical panels
- Make sure the brake is set on the powered industrial truck/ forklift before changing the battery.
- Make sure the battery is secure before lifting it
- Stand clear when moving the battery
- Make sure that the ventilation system is working properly before charging a battery
- Always add battery acid to water, never add water to battery acid
- If charging the battery on the powered industrial truck/ forklift, uncover the battery compartment to prevent the build-up of heat and hydrogen gas
- Make sure that metal objects do not come in contact with the terminals on the battery
- Make sure the charger is off before connecting it to the battery
- Make sure the vent caps are not plugged
- Never plug the charger into the truck
- Provide a conveyor, overhead hoist, or equivalent material handling equipment to handle batteries
- Provide a carboy tilter or siphon for handling electrolyte

PROGRAM AUDIT

The Program Administrator will conduct a periodic review of this program to ensure it is operating effectively.

RECORDKEEPING

Maintain copies of daily vehicle inspection forms for a minimum of 6 months. Keep maintenance and service records for each vehicle for as long as the vehicle remains in service.

Maintain training records for each employee authorized to operate a powered industrial vehicle. The training records will include copies of the written test from the classroom training,

the initial operator evaluation form, periodic operator evaluations, and documentation regarding retraining sessions if applicable.

Appendix A – Vehicle Inspection Checklist

Operator's Daily Checklist—Electric Vehicles

Instructions: Complete this checklist at the start of each shift.

| | | |
|---------------------------------|----------------------|---------------|
| Truck No. | Date 1/10/2018 | Operator Name |
| Hour Meter Reading Start Of Day | Supervisor Signature | |

Visual Checks

| OK | Needs Attention Or Repair | Not Applicable | |
|--------------------------|---------------------------------|--------------------------|--|
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Obvious damage and leaks <i>Report to supervisor immediately.</i> |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Tire/wheel condition |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Battery plug connection <i>Be sure battery plug connection is tight.</i> |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Head and tail lights |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Warning lights |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Hour meter |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Other gauges and instruments |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Battery discharge indicator <i>When key is turned on, gauge should indicate battery is charged</i> |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Fire extinguisher <i>Not charged or missing?</i> |

Operational Checks

| OK | Needs Attention Or Repair | Not Applicable | |
|--------------------------|---------------------------------|--------------------------|--|
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Horn |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Steering <i>Report to supervisor immediately.</i> |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Brakes <i>Report to supervisor immediately.</i> |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Battery load test <i>Watch battery indicator while holding the lift lever. If needle moves to red area, battery does not have sufficient charge to operate truck properly.</i> |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Parking brake <i>Report to supervisor immediately.</i> |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Vehicle movement; forward and reverse <i>Report to supervisor immediately.</i> |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Lift, tilt, side shift controls |

Remarks *Explain all items needing attention or repair.*

| |
|--|
| |
| |

Operator's Daily Checklist—Gas, LPG and Diesel Vehicles

Instructions: Complete this checklist at the start of each shift.

| | | |
|--|-----------------------------|----------------------|
| Truck No. | Date | Operator Name |
| Hour Meter Reading Start Of Day | Supervisor Signature | |

Visual Checks

| OK | Needs Attention Or Repair | Not Applicable | | |
|--------------------------|---------------------------------|--------------------------|------------------------------|-----------------------------------|
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Engine oil level | Driver to replenish. |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Radiator water level | Driver to replenish. |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Fuel level | Driver to replenish. |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Battery water level | |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Obvious damage and leaks | Report to supervisor immediately. |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Tire condition | |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Head and tail lights | |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Warning lights | |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Hour meter | |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Other gauges and instruments | |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Fire extinguisher | Not charged or missing? |

Operational Checks

| OK | Needs Attention Or Repair | Not Applicable | | |
|--------------------------|---------------------------------|--------------------------|---------------------------------|-----------------------------------|
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Horn | |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Steering | Report to supervisor immediately. |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Brakes | Report to supervisor immediately. |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Parking brake | |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Lift, tilt, side shift controls | |

Remarks Explain all items needing attention or repair.

| |
|--|
| |
| |
| |
| |

Appendix C – Powered Industrial Truck/Forklift Operator Evaluation

Operator Evaluation—Gas, LPG, Diesel, and Electric Vehicles

Instructions: Use this checklist during the field session to evaluate operator proficiency. It can also be used for periodic evaluation to ensure that operators are continuing to operate forklift trucks properly.

| | | |
|---------------------------|---------------------------|-----------------------|
| Operator Name | | Evaluator Name |
| Date Of Evaluation | Equipment Operated | |

| Operator Behaviors | Good | Fair | Poor | N/A | Comments |
|---|--------------------------|--------------------------|--------------------------|--------------------------|-----------------|
| Preuse Inspection | | | | | |
| 1. Follow the Operator's Daily Checklist. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 2. Look for damage. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 3. Document all findings on the checklist. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| Picking Up A Load | | | | | |
| 1. Square up on the center of the load. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 2. Stop with the fork tips about 1 foot from the load. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 3. Clear personnel from the area near the load. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 4. Level the forks; then slowly drive forward until the load contacts the carriage. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 5. Lift the load carefully and smoothly until it is clear. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 6. Tilt the mast back slightly to stabilize the load. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 7. Look over both shoulders. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 8. After out and stopped, lower the load to travel height. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| Traveling | | | | | |
| 1. Do not raise or lower the load and forks while traveling. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 2. Maintain a safe speed. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 3. Observe all traffic rules, warning signs, floor load limits and overhead clearances. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 4. Keep arms and legs inside the powered industrial truck/forklift. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 5. Follow other vehicles at a safe distance. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 6. Slow down when cornering. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 7. Use the horn to alert others. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 8. Travel with the load facing uphill while on a ramp or incline. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 9. Stop smoothly. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |

Operator Evaluation—Gas, LPG, Diesel, and Electric Vehicles (continued)

| Operator Behaviors | Good | Fair | Poor | N/A | Comments |
|--|--------------------------|--------------------------|--------------------------|--------------------------|----------|
| Putting Down A Load | | | | | |
| 1. Make sure there is sufficient clearance for the load. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 2. Clear personnel from the area near the load. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 3. Square up to the location; then stop about 1 foot away. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 4. Raise the load to placement level. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 5. Move slowly forward. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 6. If the load is on a pallet, lower it into position and lower the forks further. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 7. Look over both shoulders before backing out. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 8. Back straight out until the forks have cleared. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 9. Lower the forks to traveling position. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| Parking | | | | | |
| 1. Fully lower the forks. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 2. Neutralize the controls. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 3. Set the brakes. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 4. Turn off the power. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 5. If parked on an incline, block the wheels. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 6. Park only in authorized areas. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| Fueling And Battery Recharging | | | | | |
| 1. Engine off. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 2. Fire extinguisher nearby. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 3. Proper Personal Protective Equipment (PPE). | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 4. Safe fueling and battery recharging procedures followed. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 5. Spills cleaned up immediately. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |

- ☐ Based on my evaluation, the operator **has successfully** completed the evaluation and is qualified to operate the following equipment:
- ☐ Based on my evaluation, the operator **has not demonstrated** competence in operating the following equipment:

Equipment Type

Equipment Type

Evaluator Signature

Operator Signature

Appendix D - Order Picker Operator Evaluation

Order Picker Operator Evaluation Form

***Instructions:** Use this checklist during the field session to evaluate operator proficiency. It can also be used for periodic evaluation to ensure that operators are continuing to operate order pickers properly.*

| | | |
|---------------------------|---------------------------|-----------------------|
| Operator Name | | Evaluator Name |
| Date Of Evaluation | Equipment Operated | |

| Operator Behaviors | Good | Fair | Poor | N/A | Comments |
|---|--------------------------|--------------------------|--------------------------|--------------------------|-----------------|
| Preuse Inspection | | | | | |
| 1. Follow the Operator's Daily Checklist. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 2. Look for damage. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 3. Document all findings on the checklist. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| Fall Protection | | | | | |
| 1. Make sure fall protection is in place before beginning work. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 2. Inspect all components of the fall protection system before use. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 3. Make sure fall protection is worn correctly. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| Traveling With An Order Picker | | | | | |
| 1. Clear a path in the aisle. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 2. Travel with the operator's platform as low as possible. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 3. Keep hands, feet and head inside the vehicle at all times. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 4. Go slowly when coming out of aisles and into cross traffic. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 5. Use the horn to alert others. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| Picking Up A Pallet | | | | | |
| 1. Back into the pallet at ground level until the forks are completely under it and the pallet contacts the platform. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 2. Lock the pallet on. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| Raising The Platform | | | | | |
| 1. Remain stationary. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 2. Watch for overhead clearances. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| Pulling Materials Out Of Racking | | | | | |
| 1. Use good body mechanics. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 2. Position the machine so materials are at waist level. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 3. Do not force materials into or out of the racks. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |

Order Picker Operator Evaluation Form (continued)

| Operator Behaviors | Good | Fair | Poor | N/A | Comments |
|---|--------------------------|--------------------------|--------------------------|--------------------------|----------|
| Pulling Materials Out Of Racking (continued) | | | | | |
| 4. Use tubs or bins on the pallet. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 5. Fill the pallet from front to back, putting the heavier parts toward the platform. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 6. Stay on the work surface. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 7. If the operator cannot reach the materials, pull the pallet down, rearrange the materials and return it to the rack. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| Moving With The Platform Raised | | | | | |
| 1. Move slowly in a straight line in rack aisles. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 2. Avoid turning. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 3. Go slowly and watch for obstructions. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| Placing Pallets | | | | | |
| 1. Return the load to the pallet staging area. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 2. Lower the pallet to ground level before releasing it. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 3. Look over both shoulders. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 4. Carefully reverse direction. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| Parking | | | | | |
| 1. Lower the machine to the lowest position. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 2. Turn the key to "off." | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| Fueling And Battery Recharging | | | | | |
| 1. Engine off. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 2. Fire extinguisher nearby. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 3. Proper Personal Protective Equipment (PPE). | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 4. Safe fueling and battery recharging procedures followed. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 5. Spills cleaned up immediately. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |

- ☐ Based on my evaluation, the operator **has successfully** completed the evaluation and is qualified to operate the following equipment:
- ☐ Based on my evaluation, the operator **has not demonstrated** competence in operating the following equipment:

Equipment Type

Equipment Type

Evaluator Signature

Operator Signature

Appendix E - Reach Truck Operator Evaluation

Reach Truck Operator Evaluation Form

***Instructions:** Use this checklist during the field session to evaluate operator proficiency. It can also be used for periodic evaluation to ensure that operators are continuing to operate reach trucks properly.*

| | |
|---------------------------|---------------------------|
| Operator Name | Evaluator Name |
| Date Of Evaluation | Equipment Operated |

| Operator Behaviors | Good | Fair | Poor | N/A | Comments |
|--|--------------------------|--------------------------|--------------------------|--------------------------|-----------------|
| Preuse Inspection | | | | | |
| 1. Follow the Operator's Daily Checklist. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 2. Look for damage. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 3. Document all findings on the checklist. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| Picking Up A Load | | | | | |
| 1. Square up on the center of the load. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 2. Stop with the fork tips about 1 foot from the load. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 3. Clear personnel from the area near the load. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 4. If moving into a rack, make sure both outrigger legs clear the rack. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 5. Place the forks completely under the load by driving forward, extending the reach mechanism or both until the load contacts the carriage. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 6. Release the deadman pedal to set the brakes. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 7. Raise the load carefully and smoothly until it is clear. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 8. Retract the reach mechanism fully. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 9. Tilt the forks back slightly to cradle the load. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 10. Look over both shoulders before backing out. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 11. After out and stopped, lower the load to traveling height. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| Traveling | | | | | |
| 1. Do not raise or lower the load while traveling. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 2. Maintain a safe speed. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 3. Observe all traffic rules, warning signs, floor load limits and overhead clearances. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 4. Keep arms and legs inside the reach truck. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 5. Follow other vehicles at a safe distance. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 6. Slow down when cornering. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |

Reach Truck Operator Evaluation Form (continued)

| Operator Behaviors | Good | Fair | Poor | N/A | Comments |
|--|--------------------------|--------------------------|--------------------------|--------------------------|----------|
| Traveling (continued) | | | | | |
| 7. Use the horn to alert others. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 8. Travel with the load facing uphill while on a ramp or incline. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 9. Stop smoothly. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| Putting Down A Load | | | | | |
| 1. Make sure there is sufficient clearance for the load. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 2. Clear personnel from the area near the load. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 3. Square up to the location; then stop about 1 foot away. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 4. Raise the load to placement level. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 5. Either move slowly forward or extend the reach mechanism. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 6. If the load is on a pallet, lower it into position and lower the forks further. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 7. Look over both shoulders before backing out. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 8. Back out until the forks have cleared. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 9. Lower the forks to traveling position. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| Parking | | | | | |
| 1. Fully lower the forks. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 2. Neutralize the controls. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 3. Set the brakes. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 4. Turn off the power. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 5. If parked on an incline, block the wheels. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 6. Park only in authorized areas. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| Fueling And Battery Recharging | | | | | |
| 1. Engine off. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 2. Fire extinguisher nearby. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 3. Proper Personal Protective Equipment (PPE). | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 4. Safe fueling and battery recharging procedures followed. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 5. Spills cleaned up immediately. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |

- ☐ Based on my evaluation, the operator **has successfully** completed the evaluation and is qualified to operate the following equipment:
- ☐ Based on my evaluation, the operator **has not demonstrated** competence in operating the following equipment:

Equipment Type

Equipment Type

Evaluator Signature

Operator Signature

Fall Protection Program

INTRODUCTION

The company is firmly committed to the safety of our employees. We will do everything possible to prevent workplace accidents by providing a safe working environment for all employees.

Millions of workers are potentially exposed to falls from elevation hazards each day. Therefore, the company is committed to providing all employees with the proper equipment and necessary training to do their work safely and to prevent fall hazards. This Fall Protection Program (“Program”) provides employees with an overview of the steps the company is taking, with the help of all employees, to protect employees from fall hazards in the workplace. In compliance with this Program, the company will ensure that all potential fall hazards are evaluated, and that information concerning these hazards is transmitted to employees.

This Program outlines the company’s general safety rules related to fall hazards and is not inclusive of every safety rule to protect employees from fall hazards. The company may provide employees with additional fall protection rules and procedures through trainings, meetings, and other written policies and procedures. Employees are expected to follow all safety and health standards and rules which apply to their work.

A key factor in implementing this Program will be strict compliance with all applicable federal, state, and local laws, as well as all company policies and procedures. This Program has been established to help you stay safe and injury free. Failure to comply with this Program may result in disciplinary action, up to and including termination.

SCOPE AND APPLICATION

The purpose of this Program is to ensure that potential fall hazards are identified and properly controlled. The focus is on all wall and floor openings, platforms or other walking and working surfaces. Personal fall arrest systems must be used if there is a potential for a fall more than 4 feet and the elevated work area is not properly guarded. If the use of personal fall arrest equipment is required, this Program will provide guidelines for the proper use and care of this equipment. For construction applications, see the ADP IIPP addendum Fall Protection Program for Construction.

The company has implemented this Program to ensure that employees know about fall hazards and how to protect themselves. Through this Program, we will ensure that all potential fall hazards are evaluated and that information concerning these hazards is transmitted to employers and employees.

This Program contains the following elements, which will be discussed in more detail below:

- Assignment of Responsibilities
- Fall Hazard Analysis
- Fall Hazard Protection Requirements
- Fall Rescue Plan, as appropriate

- Employee Training
- Program Evaluation
- Recordkeeping

I. ASSIGNMENT OF RESPONSIBILITIES

The President of Evolution Maintenance, Inc. has been assigned as Program Administrator. Management: Though management has the ultimate responsibility for the implementation, maintenance and the success of this Program, the responsibilities are generally delegated to a named and documented Program Administrator, supervisors, if any, and the affected employees themselves.

Management will:

- Provide adequate and timely resources necessary to support this Program.
- Appoint a Program Administrator with the requisite knowledge, experience, training and authority to direct this Program.
- Ensure proper employee safety training is being provided on all equipment and procedures.
- Establish and enforce safe operating rules and procedures. - Ensure the walking/working surfaces on which employees are to work have the strength and structural integrity to support employees safely.

Program Administrator is responsible for the development, administration and the monitoring of this Program and has full authority to make necessary decisions to ensure its success and has the complete authority to halt any operations where there is a risk of employee injury associated with exposures and hazards related to falls.

The Program Administrator will review and evaluate this Fall Protection Program on an annual basis to account for changes that occur to the OSHA Standards that mandate review or for changes implemented due to corrective actions from an accident or a close-call related to falls or any time the Program does not appear to be adequate.

In addition, the Program Administrator will:

- Have a working knowledge of current fall protection regulations, standards, equipment and systems.
- Have the authority to immediately stop work if he/she determines that it is unsafe to proceed with the workplace activities.
- Assist supervisor(s)/foremen in the completion of the "Fall Hazard Assessment Form."
- Purchase, if required, the appropriate fall prevention and fall protection equipment.

- Verify that fall protection systems have been installed and inspected in compliance with this standard and all applicable federal, state and local regulations.
- Advise and provide guidance to supervisors and employees on all managed Program matters.
- Establish and assign all duties and responsibilities outlined in this Program to individuals who are trained and qualified to perform them.
- Establish and implement a procedure to identify and eliminate, or control, new and existing fall hazards.
- Develop fall protection and rescue procedures for every location where an active fall protection system (fall restraint or fall arrest) is used.
- Provide specific training for all authorized, competent and qualified persons or verify that those persons are provided with the training.
- Participate in the investigation of all incidents related to falls from heights, including:
 - Reviewing incident reports
 - Taking corrective action to eliminate causes
 - Making necessary reports to management
 - Maintaining an incident reporting system
- Conduct periodic and annual program evaluations.

Supervisors are responsible for assisting in the implementation of this Program and ensuring that employees are complying with the requirements of the Program and all applicable standards and rules. This includes maintaining the areas so they are free from fall hazards and overseeing the proper use of fall protection equipment.

In addition, supervisors will:

- Identify the activities and locations where fall hazards exist;
- Issue fall protection equipment and provide employees with the manufacturer's instructions for use, care, limitations and warnings for such equipment;
- Ensure that fall protection training is provided;
- Enforce the Program by ensuring that all subordinates comply with all facets of the program;
- Inspect for damage and follow the manufacturer's instructions for damaged equipment and equipment that has experienced a free-fall arrest;
- Inform the company and affected employees when/if an imminent danger exists; and
- Evaluate the access requirements of each work assignment and choose the best means of access for the job while considering the following job requirements:

- Number of employees requiring access to areas where the use of fall protection is required or where fall hazards have been identified

Employees are responsible for following the work practices and procedures established by this Program. Employees are also responsible for informing their supervisor of any unsafe work practices or conditions they observe as it relates to this Program. In addition, employees are responsible for:

- Attending fall protection training;
- Properly using and caring for fall protection equipment;
- Following the Fall Protection Program requirements;
- Reporting any problems to the immediate supervisor that are observed which could compromise health and safety;
- Ensuring no other individuals are exposed to fall hazards based on the operations being conducted; and
- Inspect for damage and follow the manufacturer's instructions for damaged equipment and equipment that has experienced a free-fall arrest.

II. WORKPLACE FALL HAZARD ANALYSIS

The basic rule for fall hazard control is the "4-Foot Rule," which states that any employee exposed to fall hazards of 4 feet or greater must be protected. In addition, any employee who may be exposed to falling into dangerous equipment must be protected.

- Extent and duration of the work
- Amount of material and/or tools involved
- Time employees spend on the access equipment and/ or on the elevated work location

The Program Administrator, with the assistance of supervisors, must conduct a fall hazard analysis of the workplace to identify fall hazards upon the initiation of this Program and whenever a new process or equipment has been introduced in the workplace. See Appendix C, General Work Environment Fall Hazard Assessment form.

- Weather conditions
- Equipment available on-site
- Condition of surface from which access must be made
- Room available on the access equipment and/or on the elevated work location.

III. FALL HAZARD PROTECTION REQUIREMENTS

As stated above, all employees must be protected from falls if there is a potential for a fall more than 4 feet. This includes walking and working surfaces, floor openings, wall openings and open-sided floors. Employees may be protected from falls by a variety of means, including guardrails, personal fall arrest systems, or fall restraint systems.

ACCIDENT INVESTIGATIONS

All accidents, regardless of their nature, must be investigated and reported. It is an integral part of any safety program that documentation take place as soon as possible so that the cause and means of prevention can be identified to prevent a reoccurrence.

In the event that an employee falls or there is some other related, serious incident occurring, this Program will be reviewed to determine if additional practices, procedures, or training need to be implemented to prevent similar types of falls or incidents from occurring.

FLOOR AND WALL OPENINGS

Floor openings and holes, wall openings and holes, and the open sides of platforms may create hazards. People may fall through the openings or over the sides to the level below. Objects, such as tools or parts, may fall through the holes and strike people or damage machinery on lower levels. Employees on walking/working surfaces must be protected from falling through holes more than 4 feet above lower levels by the use of a guardrail system, a personal fall arrest system, covers, or other appropriate method. See Appendix B for the OSHA definition of floor and wall openings.

PROTECTION FOR FLOOR OPENINGS

Standard railings must be provided on all exposed sides of a stairway opening, except at the stairway entrance. For infrequently used stairways, where traffic across the opening prevents the use of a fixed standard railing, the guard must consist of a hinged floor opening cover of standard strength and construction along with removable standard railings on all exposed sides, except at the stairway entrance.

- A standard railing consists of top rail, mid rail, and posts, and must have a vertical height of 42 inches nominal from the upper surface of the top rail to the floor, platform, runway or ramp level. Nominal height of mid rail is 21 inches.
- A standard toeboard is 4 inches nominal in vertical height with not more than ¼-inch clearance above floor level. Floor openings may be covered rather than guarded with rails. Every floor hole into which persons can accidentally walk must be guarded by either:
 1. A standard railing with toeboard erected on all sides or edges of the hole; or
 2. A floor hole cover capable of supporting, without failure, at least twice the weight of employees, equipment and materials that may be imposed on the cover at any one time.

If a floor hole cover is used, the covers should be secured to prevent accidental displacement and be marked with the word “Hole” or “Cover” to provide warning of the hazard (consider non-English marking when non-English speaking workers are present). When the floor opening cover is removed, a temporary guardrail must be in place or an attendant must be stationed at the opening to warn personnel.

PROTECTION FOR OPEN-SIDED FLOORS, PLATFORMS AND RUNWAYS

Every open-sided floor or platform 4 feet or more above an adjacent floor or ground level must be guarded by a standard railing on all open sides, except where there is an entrance to a ramp, stairway or fixed ladder. The railing must be provided with a toeboard if underneath the open sides one or more of the following conditions exist:

1. Persons can pass,
2. There is moving machinery, or
3. There is equipment into which falling materials could create a hazard.

Every runway must be guarded by a standard railing, or the equivalent, on all sides 4 feet or more above floor or ground level. Wherever tools, machine parts, or materials are likely to be used on the runway, a toeboard must also be provided on each exposed side.

STAIRWAY RAILINGS AND GUARDS

Every flight of stairs with four or more risers must have standard stair railings or standard handrails as specified below. Stair width is measured clear of all obstructions except handrails.

1. On stairways less than 44 inches wide having both sides enclosed, at least one handrail must be affixed, preferably on the right side descending.
2. On stairways less than 44 inches wide with one open side, at least one stair rail must be affixed on the open side.
3. On stairways less than 44 inches wide having both sides open, two stair rails must be provided, one for each side.
4. On stairways more than 44 inches wide, but less than 88 inches, one handrail must be provided on each enclosed side and one stair rail on each open side.
5. On stairways 88 inches or more in width, one handrail must be provided on each enclosed side, one stair rail on each open side, and one intermediate stair rail placed approximately in the middle of the stairs.

A standard stair railing (stair rail) must be of construction similar to a standard railing, but the vertical height must be not more than 34 inches or less than 30 inches from the upper surface of the top rail to the surface of the tread in line with the face of the riser at the forward edge of the tread.

A standard handrail must consist of a lengthwise member mounted directly on a wall or partition by means of brackets attached to the lower side of the handrail in order to keep a smooth, unobstructed surface along the top and both sides of the handrail. It must hold the rail 3 inches from the wall and be no more than 8 feet apart. The height of the handrails must be no more than 34 inches or less than 30 inches from the upper surface of the handrail to the surface of the step.

FIXED INDUSTRIAL STAIRS

Fixed industrial stairs must be provided for access to and from places of work where operations necessitate regular travel between levels and for access to operating platforms at any equipment which requires attention routinely during operations. Requirements include:

1. Fixed industrial stairs must be strong enough to carry five times the normal anticipated live load.
2. At the very minimum, any fixed stairway must be able to carry safely a moving concentrated load of 1000 pounds.
3. All fixed stairways must have a minimum width of 22 inches.
4. Fixed stairs must be installed at angles to the horizontal of between 30 and 50 degrees.
5. Vertical clearance above any stair tread to an overhead obstruction must be at least 7 feet measured from the leading edge of the tread.

FIXED LADDERS

A fixed ladder is a ladder permanently attached to a structure, building or equipment. A point to remember is that fixed ladders, with a length of more than 20 feet to a maximum unbroken length of 30 feet must be equipped with cages or a ladder safety device. A cage is a guard that is fastened to the side rails of the fixed ladder or to the structure to encircle the climbing space of the ladder for the safety of the person who must climb the ladder.

1. Cages must extend a minimum of 42 inches above the top of a landing, unless other acceptable protection is provided.
2. Cages must extend down the ladder to a point not less than 7 feet or more than 8 feet above the base of the ladder. *For more information on ladder use, see the ADP IIPP addendum, Ladder Safety.* AERIAL BOOM LIFTS AND SCISSORS LIFTS There are different rules regarding fall protection for aerial boom lifts and scissors lifts. Being tied off is not required in scissors lifts if the employees feet stay on the floor. Standing on guardrails is not allowed. All guardrails must be in place and the entry point must be protected with a gate or chains that can withstand the same lateral force as the guardrails (200 pounds minimum). Workers in aerial boom lifts must wear harnesses and be tied off to appropriate anchors. The tie-off should be located and the lanyard set so that the worker cannot be ejected from the basket. Workers must keep both feet on the floor of an aerial boom lift at all times. DANGEROUS EQUIPMENT Employees positioned

four feet or more above dangerous equipment must be protected from falling into or onto the equipment by appropriate means, such as guardrails or personal fall arrest equipment.

OTHER WORKING SURFACES

Portable dockplates (bridge plates) must be secured in position either by being anchored or equipped with devices that will prevent the dockplates from slipping. Movement of the dockboard during material handling operations has resulted in forklifts overturning, or falling off the dock, often with serious injury or death to the driver and damage to equipment and material.

1. Handholds must be provided on portable dockboards to permit safe handling when the dockboard must be repositioned or relocated.
2. Portable dockboards must be inspected prior to use.
3. When not in use, portable dockboards will be stored in a manner to prevent damage.

PERSONAL FALL ARREST SYSTEM EQUIPMENT

Personal fall arrest systems are required if there is a potential for a worker to fall more than 4 feet and the elevated work area is not properly guarded. As of January 1, 1998, body belts are not acceptable as part of a personal fall arrest system. The type of personal fall arrest system selected should match the particular work situation. Personal fall arrest systems may consist of the following items:

- Anchorage Points
- Full Body Harness
- Lanyards
- Lifelines
- Snaphooks

Full body harnesses and lanyards must only be used as intended by the manufacturer for employee fall protection. Appropriate devices must be used to provide 100% fall protection. The “D” ring on the body harness must be positioned in the back up between the shoulder blades to minimize impact forces of the body in the event of a fall.

EQUIPMENT INSPECTION, STORAGE AND MAINTENANCE

All fall protection equipment must be carefully inspected prior to each use and periodically throughout the day. Safety equipment showing any signs of mildew, torn or frayed fabric or fiber, burns, excessive wear or other damage or deterioration which could cause failure must be permanently removed from service. All fall protection equipment must be properly maintained and stored when not in use. This includes keeping all fall protection equipment dry and out of sunlight and away from caustics, corrosives or other materials that could cause defects.

Fall arrest equipment must be inspected prior to use. Defective equipment must be immediately withdrawn from service and should be tagged or marked as unusable. The inspection must identify the following conditions:

- Any component with a significant defect such as cuts, tears, abrasions, mold or stretching.
- Alterations or additions that might affect efficiency.
- Damage due to deterioration.
- Contact with fire, acids or other corrosives.
- Distorted hooks or faulty spring hooks.
- Loose, damaged, or non-functioning parts.

IV. FALL RESCUE PLAN

One of the most frequently overlooked areas of fall protection is to assure that employees who may fall are able to rescue themselves. If they can't, arrangements must be made to provide prompt rescue services.

Considerations for Rescue Planning

There are many variables to consider in rescue planning. The following should be considered carefully in preparing a rescue plan:

- Is the person conscious or unconscious
- What is the body-holding device
- Is the situation likely to be that a person is suspended or is the body being supported by something in addition to the harness, e.g., suspension trauma straps
- Rescues should be completely safe for the rescue team
- The rescue team should be able to communicate with external emergency services without leaving the vicinity of the work-site
- Conduct of rehearsals, practices and exercises
- What communication systems should be used between the person and the rescue team
- Mobile phones, pagers and similar items must not be used in or within 5 meters of any Category 1 or 2 (atmospheric contaminants) confined space
- Is the person uninjured and capable of self rescue
- Is the person injured but still capable of self rescue
- Is the person injured and requiring treatment at height by a member of the rescue team or emergency services

- Can the person be winched up/down, e.g., by a davit/tripod and winch
- Is the person assisted by a rescue team member who accesses his/her height, e.g., cherry picker, climbing with fall arrest equipment
- What is the emergency contact information of rescue services available and what are the instructions for summoning immediate assistance
- Is the rescue equipment immediately available for this job site location (ladders, rescue kits, elevating platforms, tripods, additional harnesses, controlled descent devices, winches, stretcher, etc.)
- What obstructions are in the way to reach the injured or suspended person
- How can rescue be completed within 15 minutes of a fall to minimize the risk of further injury or death due to suspension trauma

Considerations for Rescue Planning – Personnel Requirements

The number of rescue personnel required for working at heights is dependent on many different aspects including:

- The type of asset
- The inherent risks associated with the asset
- The geographical location of the asset
- The type of work to be undertaken
- Location of the worker to the exit point
- Size of the work area
- Type of rescue equipment being used
- Size of the exit area

Components of a Rescue Plan

There are many equally important components in a rescue plan including:

- Details of the asset/site
- How the person is to be rescued
- Responsibilities – who will do what
- Equipment required
- Communication systems
- Sequence of events when emergency arises

- Use for rescue or otherwise of external emergency services
- All emergency telecommunications numbers and/or radio frequencies
- Requirement for work crew to proceed with rescue if safe
- Conduct of rehearsals, practices or exercises

After performing a workplace assessment to identify areas where a personal fall arrest system is required, a detailed fall rescue plan must be implemented that includes:

- The activities to be performed by employees;
- The level of mobility required by the user of the fall arrest equipment;
- How rescue workers would get to a fallen employee;
- The rescue equipment needed;
- The workplace conditions; and
- Environmental factors and hazards that the employee may encounter during the specific activity.

The fall rescue plan must include specific information on the type of work being done and the manner in which the rescue is to be performed. The plan must be updated whenever conditions change in the work environment or with the type of equipment being used. See Appendix E – Fall Rescue Plan.

V. EMPLOYEE TRAINING

Our company will provide a fall prevention training program for each employee who might be exposed to fall hazards. Any employee required to use a fall arrest system must be trained in the proper use and care of the personal fall arrest system. Training will include:

- When the use of the fall arrest equipment is required.
- How to properly inspect the equipment prior to use.
- The proper methods of donning, adjusting and connecting the equipment.
- The intended function and performance characteristics of each piece of equipment.
- Proper attachment methods and locations on the equipment including compatibility of the snap hooks, D-rings and other connection devices.
- Proper anchoring and tie-off techniques.
- Any unique conditions or hazards of the work environment where the fall arrest equipment will be used.
- The inspection and storage of the equipment.

When the Program Administrator or a supervisor has reason to believe that any affected employee who has already been trained does not have the understanding and skill expected of the employee, the employer must retrain that employee.

Retraining is required at least in the following circumstances:

- a) changes in the workplace render previous training obsolete;
- b) changes in the types of fall protection systems or equipment to be used render previous training obsolete; or
- c) inadequacies in an affected employee's knowledge or use of fall protection systems or equipment indicate that the employee has not retained the requisite understanding or skill.

VI. PROGRAM EVALUATION

Workplace evaluations must be performed periodically and annually by the Program Administrator to ensure that the provisions of this Program are effective. Employees must be interviewed periodically to assess Program effectiveness. In addition to staff interviews, the following criteria will also be used to evaluate the performance of the Program:

- Accident reports and number of accidents.
- Management/staff compliance/questions with program components.

VII. RECORDKEEPING

Copies of all fall hazard assessments will be maintained by the company for three years.

Initial Program employee safety training records will be maintained by the company for a period of 30 years. Refresher training records will be kept for a period of five years.

Equipment maintenance records, including user inspections of all personal fall protection equipment will be maintained by the company until the particular equipment item is retired.

Appendix A – Employee Acknowledgement Form

The company is firmly committed to the safety of its employees. We will do everything possible to prevent workplace accidents and are committed to providing a safe working environment for you and all employees. Workplace safety is a team effort and everyone at the company must be involved and committed to the Fall Protection Program (“Program”).

By signing this document, I confirm the receipt of the company’s Fall Protection Program and agree to comply with the policies and procedures contained within the Program and any revisions to it. I also understand that this Program contains an overview of the fall protection rules for the company and is not intended to be an agreement for employment. I understand that my employment is at-will, and that I do not have a contract for employment for any particular length of time nor a guarantee of employment. I also understand that the fall protection rules contained in this Program can be changed at any time at the sole discretion of the company without prior notification.

Employee Name

Employee Signature

Date

Appendix B – Glossary of Terms

GENERAL

Competent Person - Someone who is capable of identifying existing and predictable hazards in the surroundings or working conditions which are hazardous or dangerous to employees, and who has authorization to take prompt corrective measures to eliminate them. Floor Hole – An opening measuring less than 12 inches but more than one inch in its least dimension, in any floor, platform, pavement or yard which materials but not persons may fall.

Floor Opening – An opening measuring 12 inches or more in its least dimension, in any floor, platform, pavement or yard through which a person may fall.

Handrail – A single bar or pipe supported on brackets from a wall or partition, as on a stairway or ramp, to furnish persons with a handhold in case of tripping.

Platform – A working space for persons elevated above the surrounding floor or ground.

Standard Railing – A vertical barrier erected along exposed edges of a floor opening, wall opening, platform or runway to prevent falls of persons.

Toeboard – A vertical barrier at floor level erected along exposed edges of a floor opening, wall opening, platform or runway to prevent falls of materials.

Wall Hole – An opening less than 30 inches but more than one inch wide, in any wall or partition.

Wall Opening – An opening at least 30 inches high and 18 inches wide in any wall or partition through which a person may fall.

PERSONAL FALL ARREST SYSTEM

Personal Fall Arrest System – A system used to arrest an employee in a fall from a working level. It consists of an anchorage, connectors and a full body harness (the use of a body belt is prohibited as of January 1, 1998). The system may also include a lanyard, deceleration device, lifeline or suitable combination of these components.

Anchorage – A secure point of attachment for lifelines, lanyards or deceleration devices, and which is independent of the means of supporting or suspending the employee.

Deceleration Device – Any mechanism that serves to dissipate a substantial amount of energy during a fall arrest or otherwise limit the energy imposed on an employee during a fall arrest.

Full Body Harness – Straps which may be secured about the employee in a manner that will distribute the fall arrest forces over at least the thighs, pelvis, waist, chest and shoulders with means for attaching it to other components of a personal fall arrest system. Lanyard – A flexible line of rope, wire rope, or strap, which generally has a connector at each end for connecting the body harness to a deceleration device, lifeline or anchorage.

Lifeline – A component consisting of a flexible line for connection to an anchorage at one end and to hang vertically or for connection to anchorages at both ends to stretch horizontally. This serves as a means of connecting other components of a personal fall arrest system.

Snap hook – A connector comprised of a hook-shaped member with a normally closed keeper, which may be opened to permit the hook to receive an object, and when released, automatically closes to retain the object.

Appendix C – General Work Environment Fall Hazard Assessment

Housekeeping

- ☐ Is a documented, functioning housekeeping program in place?
- ☐ Are all worksites clean, sanitary, and orderly?
- ☐ Are work surfaces kept dry or is appropriate means taken to assure the surfaces are slip-resistant?
- ☐ Are all spilled hazardous materials or liquid cleaned up immediately and according to proper procedures?

Walkways

- ☐ Are aisles and passageways kept clear?
- ☐ Are aisles and walkways marked as appropriate?
- ☐ Are wet surfaces covered with non-slip materials?
- ☐ Are holes in the floor, sidewalk or other walking surface repaired properly, covered or otherwise made safe?
- ☐ Is there safe clearance for walking in aisles where motorized or mechanical handling equipment is operating?
- ☐ Are materials or equipment stored in such a way that sharp projections will not interfere with the walkway?
- ☐ Are changes of direction or elevation readily identifiable?
- ☐ Are aisles or walkways that pass near moving or operating machinery, welding operations or similar operations arranged so employees will not be subjected to potential hazards?
- ☐ Is adequate headroom provided for the entire length of any aisle or walkway?
- ☐ Are standard guardrails provided wherever aisle or walkway surfaces are elevated more than 30 inches above any adjacent floor or the ground?
- ☐ Are bridges provided over conveyors and similar hazards?

Floor and Wall Openings

- ☐ Are floor openings guarded by a cover, a guardrail, or equivalent on all sides (except at entrance to stairways or ladders)?
- ☐ Are toeboards installed around the edges of permanent floor openings (where persons may pass below the opening)?
- ☐ Are skylight screens of such construction and mounting that they will withstand a load of at least 200 pounds?
- ☐ Is the glass in the windows, doors, glass walls, etc., which are subject to human impact, of sufficient thickness and type for the condition of use?
- ☐ Are grates or similar type covers over floor openings such as floor drains of such design that foot traffic or rolling equipment will not be affected by the grate spacing?
- ☐ Are unused portions of service pits and pits not actually in use either covered or protected by guardrails or equivalent?
- ☐ Are manhole covers, trench covers and similar covers, plus their supports designed to carry a truck rear axle load of at least 20,000 pounds when located in roadways and subject to vehicle traffic?
- ☐ Are floor or wall openings in fire resistive construction provided with doors or covers compatible with the fire rating of the structure and provided with a self-closing feature when appropriate?

Stairs and Stairways

- ☐ Are standard stair rails or handrails on all stairways having four or more risers?
- ☐ Are all stairways at least 22 inches wide?
- ☐ Do stairs have landing platforms not less than 30 inches in the direction of travel and extend 22 inches in width at every 12 feet or less of vertical rise?
- ☐ Do stairs angle no more than 50 and no less than 30 degrees?
- ☐ Are step risers on stairs uniform from top to bottom?
- ☐ Are steps on stairs and stairways designed or provided with a surface that renders them slip resistant?
- ☐ Are stairway handrails located between 30 and 34 inches above the leading edge of stair treads?
- ☐ Do stairway handrails have at least 3 inches of clearance between the handrails and the wall or surface they are mounted on?
- ☐ Where doors or gates open directly on a stairway, is there a platform provided so the swing of the door does not reduce the width of the platform to less than 21 inches?
- ☐ Where stairs or stairways exit directly into any area where vehicles may be operated, are adequate barriers and warnings provided to prevent employees stepping into the path of traffic?
- ☐ Do stairway landings have a dimension measured in the direction of travel, at least equal to the width of the stairway?

Elevated Surfaces

- ☐ Are signs posted, when appropriate, showing the elevated surface load capacity?
- ☐ Are surfaces elevated more than 30 inches above the floor or ground provided with standard guardrails?
- ☐ Are all elevated surfaces (beneath which people or machinery could be exposed to falling objects) provided with standard 4-inch toeboards?
- ☐ Is a permanent means of access and egress provided to elevated storage and work surfaces?
- ☐ Is required headroom provided where necessary?
- ☐ Is material on elevated surfaces piled, stacked or racked in a manner to prevent it from tipping, falling, collapsing, rolling or spreading?
- ☐ Are dock boards or bridge plates used when transferring materials between docks and trucks or rail cars?

Appendix D – Training Attendance Sheet

FALL PROTECTION PROGRAM

Date: _____

Instructor: _____

Training A/V Materials: _____

| Name | Department |
|------|------------|
| 1. | |
| 2. | |
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| 18. | |
| 19. | |

Appendix E – Fall Rescue Plan

Date: _____
Location: _____
Job Description: _____

| | | |
|---|--|--|
| <p>Will someone see it happen?</p> <p><input type="checkbox"/> Co-workers</p> <p><input type="checkbox"/> Other trades</p> <p><input type="checkbox"/> Plant personnel</p> <p><input type="checkbox"/> Public</p> <p>Contacts</p> <p>Rescuer(s)</p> <p>_____</p> <p>_____</p> <p>_____</p> <p>Method of contact</p> <p><input type="checkbox"/> PA</p> <p><input type="checkbox"/> Verbal/Face to face</p> <p><input type="checkbox"/> Radio Channel: _____</p> <p><input type="checkbox"/> Phone Number: _____</p> <p><input type="checkbox"/> Other _____</p> <p>Is information available?</p> <p><input type="checkbox"/> Emergency phone number</p> <p><input type="checkbox"/> Site address</p> <p><input type="checkbox"/> Directions and access for rescuers</p> | <p>How will rescue workers get to fallen worker?</p> <p><input type="checkbox"/> Ladder</p> <p><input type="checkbox"/> Keys to building and roof</p> <p><input type="checkbox"/> Elevator</p> <p><input type="checkbox"/> Pull worker through window or balcony</p> <p><input type="checkbox"/> Pull worker up to roof</p> <p><input type="checkbox"/> Climb/rappel down the building</p> <p><input type="checkbox"/> Aerial equipment from the ground</p> <p><input type="checkbox"/> Suspended access equipment</p> <p>Rescue Equipment Needed</p> <p><input type="checkbox"/> Ladder <input type="checkbox"/> Block & Tackle</p> <p><input type="checkbox"/> Rescue Pole <input type="checkbox"/> First Aid Kit</p> <p><input type="checkbox"/> Rescue Rope <input type="checkbox"/> Life Ring</p> <p><input type="checkbox"/> Spider <input type="checkbox"/> Work Vest</p> <p><input type="checkbox"/> Scaffold <input type="checkbox"/> (Cutting Device)</p> <p><input type="checkbox"/> Stokes Litter</p> <p><input type="checkbox"/> Alternative Lifting & Lowering Device</p> <p>Location of Equipment:</p> <p><input type="checkbox"/> Job Site <input type="checkbox"/> Gang Box</p> <p><input type="checkbox"/> Tool House</p> <p><input type="checkbox"/> _____</p> | <p>Critical Rescue Factors</p> <p>Anchor Point _____</p> <p>_____</p> <p>Landing Area</p> <p>_____</p> <p>_____</p> <p>_____</p> <p>Rescue Obstructions/Hazards:</p> <p><input type="checkbox"/> Working alone</p> <p><input type="checkbox"/> Language barrier</p> <p><input type="checkbox"/> Wind</p> <p><input type="checkbox"/> Unusual feature of building or structure</p> <p><input type="checkbox"/> No 911 area</p> <p><input type="checkbox"/> No emergency services nearby</p> <p><input type="checkbox"/> Distance from high rescue teams</p> <p><input type="checkbox"/> Other hazards</p> <p>Who will report worker's condition after a fall?</p> <p>_____</p> <p>_____</p> <p>_____</p> |
| <p>Check for Yes</p> <p><input type="checkbox"/> Have alternatives to using fall arrest equipment been considered?</p> <p><input type="checkbox"/> Has rescue equipment been inspected and found in good shape?</p> <p><input type="checkbox"/> Is equipment adequate for the rescue plan (weight ratings, length, connection type, etc.)?</p> <p><input type="checkbox"/> Have communication devices been identified, located, & tested?</p> <p><input type="checkbox"/> Are all rescuers familiar with the use of the rescue equipment?</p> <p><input type="checkbox"/> If working over water, is there a boat available?</p> | | <p>Comment</p> <p>_____</p> <p>_____</p> <p>_____</p> |

OSHA 29 CFR 1910.1200 - Hazard Communication

SCOPE

Millions of workers are potentially exposed to one or more chemical hazards each day. There are hundreds of thousands existing chemical products, and hundreds of new ones being introduced annually into the workplace. Chemical exposure may cause or contribute to many serious health effects such as heart ailments, kidney and lung damage, sterility, cancer, burns, and rashes. Some chemicals are also safety hazards and have the potential to cause fires, explosions, and/or other serious accidents.

The Hazard Communication Standard (HCS) was implemented in 1983 and was based on the premise that employees have a right to know the identity of the chemicals in their workplace and the hazards that they may pose. Employees also have the right to know what protective measures are needed to prevent adverse effects from hazardous chemical use.

New changes to the OSHA HCS bring the United States into alignment with the Globally Harmonized System of Classification and Labeling of Chemicals (GHS), further improving safety and health protections for workers. The GHS is expected to prevent injuries and illnesses, save lives, and improve trade conditions for chemical manufacturers. OSHA's implementation of HCS in 1983 gave the workers the "right to know," but the new GHS gives workers the "right to understand."

The amended HCS still requires chemical manufacturers and importers to evaluate the chemicals they produce or import and provide hazard information to employers and workers by putting labels on containers and preparing safety data sheets (SDS). The amended standard provides a single set of harmonized criteria for classifying chemicals according to their health and physical hazards and specifies hazard communication elements for labeling and SDSs.

Major changes to the HCS are as follows:

- **Hazard Classification:** Under the amended standard, there are specific criteria to address health and physical hazards as well as classification of chemical mixtures.
- **Labels:** Chemical manufacturers and importers must provide a label that includes a signal word, pictogram, hazard statement, and precautionary statement for each hazard class and category.
- **Safety Data Sheets:** The new format has 16 specific sections, ensuring consistency in presentation of important information, including the identity, hazards, and personal protective equipment to be used.
- **Information and Training:** To facilitate understanding of the amended standard, workers must be trained by December 1, 2013 on the new GHS label elements and SDS format, in addition to the current training requirements.

The following table specifies the effective completion dates for complying with various sections of the amended standard. Note that during the transition period from now to June 2016,

employers in the affected industry groups can comply with the newly amended standard, the current standard, or both.

| Effective Completion Date | Requirements | Who |
|---------------------------|--|---|
| December 1, 2013 | Train employees to read, interpret and use new SDSs and GHS labels. | Employers |
| June 1, 2015 | Companies that manufacture, import or distribute hazardous chemicals must re-classify products and must replace MSDSs with new SDSs according to GHS criteria. | Chemical manufacturers, importers, distributors and employees |
| December 1, 2015 | Companies that manufacture, import or distribute hazardous chemicals replace labels with new GHS labels. | Chemical manufacturers, importers, distributors and employees |
| June 1, 2016 | Employers must modify their HCS and use new GHS labels and SDSs and provide additional employee training for newly identified hazards. | Employers |
| Transition Period | Comply with 29 CFR 1910.1200 (the amended standard), the current standard, or both. | Chemical manufacturers, importers, distributors and employees |

APPLICATION

This program establishes uniform requirements to ensure that the hazards of all chemicals handled, used, and/or stored in the workplace are classified and that this hazard information is communicated and understood by all affected employees by means of Globally Harmonized System (GHS) labeling, safety data sheets (SDSs), and employee safety training. Through this program, our employees will receive the necessary hazard information and Our Company will take steps to reduce exposures, substitute less hazardous materials, and establish proper work practices. This program

focuses on compliance issues from the perspective of a receiver or user of hazardous chemicals rather than as a chemical manufacturer or importer/exporter. For this reason, elements of the HCS dealing with trade secrets are not addressed.

Our Hazard Communication Program will be compliant with the 2012 Hazard Communication Standard (29 CFR 1910.1200) that incorporates the Globally Harmonized System of Classification and Labeling of Chemicals (GHS). It is comprised of the following elements:

- Assignment of Responsibilities
- List of Hazardous Chemicals
- Annual Chemical Review
- Safety Data Sheets (SDS)
- Container Labeling
- Review of Tasks that Involve Hazardous Chemicals

- Employee Training
- Contractor Communication
- Program Audit
- Recordkeeping

I. ASSIGNMENT OF RESPONSIBILITIES

Management: Though management has the ultimate responsibility for the implementation, maintenance, and the success of our Hazard Communication Program, the responsibilities are generally delegated to a named and documented Program Administrator, supervisors, if any, and the affected employees themselves.

In addition, management will:

- Ensure/maintain a current list of chemicals handled, used, and/or stored in the workplace
- Ensure that a system is established to make safety data sheets (SDSs) readily available to employees for hazardous chemicals in the workplace
- Ensure proper employee safety training
- Establish and enforce safe operating rules and procedures Daniel Stone has been assigned as Program Administrator_ The Program Administrator is responsible for the development and administration of the Hazard Communication Program and has full authority to make necessary decisions to ensure its success and has the complete authority to halt any operations where there is a risk of employee injury associated with the use of any chemical in the workplace. The Program Administrator will review and evaluate this Hazard Communication Program on an annual basis, as changes occur to the OSHA standards that mandate review, if there is an accident or close call related to chemical usage/exposure, or any time the program contents do not appear to be adequate. In addition, the Program Administrator will:
 - Maintain a current inventory of hazardous chemicals present in the workplace and perform an annual review of the chemicals in the workplace
 - Obtain and maintain safety data sheets (SDSs) for all chemicals in the workplace
 - Ensure all hazardous chemicals in the workplace are appropriately labeled to meet GHS requirements
 - Train employees to recognize and interpret labels, warnings, color-coding, and signs, etc. that are affixed to containers
 - Train employees to understand the elements of a safety data sheet (SDS)
 - Train employees in the safe use, handling, and storage of hazardous chemicals

- Train employees to recognize and understand potential exposures, appropriate work procedures and personal protective equipment, and appropriate responses to accidental exposure
- Communicate to contractors the hazards to which their employees may have exposure and ensure that contractors employ appropriate safeguards for their work
- Review tasks that involve hazardous chemicals and develop appropriate safeguards for performance of those tasks
- Assess the hazards and protective measures associated with non-routine tasks involving hazardous chemicals
- Conduct periodic inspections to ensure work practices are being adhered to
- Investigate and document any chemical injuries, exposures, or accidents
- Ensure proper medical consultations and examinations for workers who suspect overexposure to hazardous chemicals and maintain medical records relating to consultations, examinations, and medical surveillance as required by law
- Provide, as necessary, chemical information to state and local regulatory agencies
- Maintain records to document compliance with the program

Supervisors have the responsibility for ensuring that the Hazard Communication Program is implemented properly within their assigned department(s) and being familiar with the tasks performed and chemicals used within their department(s).

In addition, Supervisors will:

- Assist the Program Administrator with maintaining a current inventory and conducting an annual review of all chemicals used within work areas for which they have responsibility
- Assist the Program Administrator in compiling safety data sheets (SDSs) for all chemicals used within areas under their supervision and ensuring the SDSs are available to all workers in these areas during their work shift
- Ensure that all hazardous chemicals in their work areas are appropriately labeled to meet GHS requirements (use of all hazardous chemicals is restricted by the supervisor until the chemicals are appropriately labeled)
- Assist the Program Administrator to train employees to recognize and interpret labels, warnings, color-coding, and signs, etc. that are affixed to containers; understand the elements of a safety data sheet (SDS); how to safely use, handle, and store hazardous chemicals; and understand potential exposures, appropriate work procedures and personal protective equipment (PPE), and appropriate responses to accidental exposure within the work environment

- Communicate to contractors the hazards to which their employees are exposed within work areas for which they have responsibility
 - Ensure completion of first reports of injury for employee illnesses or injuries caused by exposure to hazardous chemicals
 - Assist with investigation and documentation any chemical injuries, exposures, or accidents
 - Implement protective measures and corrective action to minimize or eliminate employee exposure to hazardous chemicals within work areas for which they have responsibility
 - Provide and maintain appropriate personal protective equipment (PPE) as required and ensure the proper usage of PPE by employees
 - Ensure employees have access to the written Hazard Communication Program
- Employees who work with hazardous chemicals are responsible for:
- Attending and participating in required training
 - Reading and understanding safety data sheets (SDSs) prior to using hazardous chemicals and following safety instructions, including wearing personal protective equipment, contained in SDSs
 - Following our company's chemical labeling procedures
 - Informing their supervisor when adequate labeling or SDSs are missing
 - Reporting all workplace injuries, chemical exposure incidents, or unsafe work conditions to supervisors as soon as possible

II. INVENTORY OF HAZARDOUS CHEMICALS

The Program Administrator will develop and maintain an inventory of the hazardous chemicals known to be present in the workplace. All hazardous chemicals used or stored on-site will be identified and their common uses, quantity, and location documented. This inventory should be organized by using the product identifier that is referenced on the safety data sheet (SDS). The list will be compiled for the workplace as a whole and may also be compiled for individual work areas.

III. ANNUAL CHEMICAL REVIEW

The Program Administrator will ensure that the inventory of our company's hazardous chemicals is easily accessible and available to our employees at all times. At least annually, the Program Administrator will initiate a review of all chemicals purchased, used, and/or stored to verify that they are on the current inventory of hazardous chemicals; that the SDS information is current; and that training, labeling, and recordkeeping requirements are being met. Immediately after new chemicals are brought into the workplace, the inventory will be updated, SDSs will be obtained and made accessible, and labeling requirements will be met. When the use or storage of a chemical is discontinued, the Program Administrator or designated associate

will continue to maintain the SDS for recordkeeping purposes and add the product to a List of Obsolete Safety Data Sheets.

IV. SAFETY DATA SHEETS !SDS"

The SDS (formerly "Material Safety Data Sheet") is a detailed information bulletin prepared by the manufacturer or importer of a chemical that describes the physical and chemical properties, physical and health hazards, routes of exposure, precautions for safe handling and use, emergency and first-aid procedures, and control measures. The information in an SDS must be presented in a uniform format using 16 headings in specific order. See Appendix B "SDS Sections." Information on an SDS aids in the selection of safe products and helps prepare employers and employees to respond effectively to daily exposure situations as well as to emergency situations.

Starting with the inception of this program, the Program Administrator will contact the manufacturer, supplier, or distributor of chemical products used or stored by the company to determine if SDSs have been issued for them and will obtain the SDS by calling or sending a request letter (See Appendix D) or from the internet.

The Program Administrator will ensure that required safety data sheets (SDSs) are obtained, preferably prior to the purchase or within 48 hours of receipt, and retained for each hazardous chemical used or stored by Our Company. Chemicals for which the SDS has not yet been received will not be used by an employee until the SDS is obtained and reviewed.

It is the responsibility of the Program Administrator or designated associate to maintain the most recent copy in the active SDS file, and to ensure that it is readily accessible to all employees, designated representatives, and OSHA officials.

V. CONTAINER LABELING

Due to the transition period for compliance with the amended HCS, chemical manufacturers and importers have until December 1, 2015 to comply with the new GHS labeling requirements. See Appendix C "Labeling Requirements."

The Program Administrator or designated supervisor(s) is responsible for the following:

- Verifying that all containers in which hazardous chemicals are received or stored are prominently labeled, tagged, or marked in legible English with the required information.
- Ensuring that labels on incoming containers of hazardous chemicals are legible and not removed or defaced at any time unless immediately replaced with a compliant inhouse label.
- Ensuring that secondary containers used for regular storage and use of chemicals also meet labeling storage requirements.
- If employees speak other languages, ensuring that labels provide information in their language.

Exceptions to workplace container labeling requirements include the following:

- Portable containers holding hazardous chemicals intended for immediate use by the employee who transferred the chemical from its original container and which are under the complete control of that employee at all times. Only those chemicals classified as “immediate use” are exempt from the labeling procedures described above. “Immediate use” means the hazardous chemical is under the control of, and used only by, the person who transfers it from an original labeled container, and only for the work shift in which it was transferred.
- If Our Company decides to use signs, placards, process sheets, batch tickets, operating procedures, or other such written materials in lieu of affixing labels to individual stationary process containers, the alternative method must identify the containers to which it is applicable and convey the information required to be on a label. Our Company must also ensure that the written materials are readily accessible to the employees in their work area throughout each work shift.

VI. REVIEW OF TASKS THAT INVOLVE HAZARDOUS CHEMICALS

It is important that our company and employees understand the hazards presented by chemicals used or stored by the Company. The Program Administrator will oversee development and maintenance of written procedures detailing appropriate actions and safeguards for control of all hazardous chemical exposures. The Program Administrator will review any new procedure involving hazardous chemicals for potential exposure hazards.

All procedure reviews and approvals will occur before introducing a chemical into work processes. The written procedures will include:

- Specific chemical hazards
- Personal protective equipment or safety measures an employee must use to protect against these hazards
- Measures taken to lessen the hazards including ventilation, respirators, and emergency procedures
- Methods and observation techniques used to determine the presence or release of hazardous chemicals in the work area

VII. EMPLOYEE TRAINING

The Program Administrator or designated supervisor(s) will ensure that Hazard Communication Program training is provided to all employees at the time of their initial assignment, whenever new chemicals are introduced into their work area or when, if applicable, an employee is transferred into a new work area. Training is required for full-time, part-time, and temporary employees. By December 1, 2013 all employees will receive additional training to ensure that they are familiar with the new GHS labels and safety data sheets. Job Specific Training and

Education The Program Administrator or designated supervisor(s) will ensure: Employees who work with or are potentially exposed to hazardous chemicals while performing routine and nonroutine hazard job duties are informed of the chemical hazards. It is acceptable to put the chemicals into categories (e.g. herbicides, pesticides, fertilizers, etc.) for instructional purposes if it is more convenient and adequate to ensure that employees fully understand the hazards of each chemical used. It is permissible to provide general instructions for each hazard category or provide instructions specific to each chemical, again, provided that employees fully understand the hazards of each chemical used. Chemical-specific information must always be available through labels and safety data sheets. Employee training sessions should include the following:

- Describe operations in the employees' work area where hazardous chemicals are present.
- The physical, health, simple asphyxiation, combustible dust and pyrophoric gas hazards, as well as hazards not otherwise classified, of the chemicals in the work area.
- Indicate the location and availability of the written Hazard Communication Program including the inventory of hazardous chemicals; explanation of the labels received on shipped containers and the workplace labeling system used by the Company; and the SDS, including the order of information and how employees can obtain and use the appropriate hazard information.
- Encourage employees to familiarize themselves with the chemicals they use and to update themselves as new or revised SDSs arrive. which is done before an employee works with a chemical to ensure maximum understanding and employee protection.
- An explanation of what an SDS is, how to read an SDS (e.g., what information each section contains and where to look for specific information), and where SDSs are located.
- An explanation of how to relate information on SDSs to the information on container labels (e.g., physical properties and health hazards).
- An explanation of steps taken to protect employees including the use of personal protective equipment (PPE), why PPE is important, and the SDS section detailing the PPE for each chemical.
- An explanation of safe handling procedures for the chemicals the employees may have exposure to and where the information is referenced on the SDS.
- The measures employees can take to protect themselves from these hazards, including specific procedures the company has implemented to protect employees from exposure to hazardous chemicals, such as appropriate work practices, emergency procedures, and personal protective equipment to be used.
- An explanation of the hazard pictograms found on labels and any caution signs or other warning signs used in the work area.

- Methods and observations that may be used to detect the presence or release of a hazardous chemical in the work area (e.g., monitoring conducted by the employer, continuous monitoring devices, and visual appearance or odor of hazardous chemicals when being released).
- Identify and describe the potential hazards associated with non-routine tasks before the employees go to work on the task.
- An explanation to employees of what to do in case of mechanical accidents (e.g., equipment failure); spills, leaks or releases of chemicals; and ingestion/inhalation/injection/absorption.
- Emergency procedures to follow when hazardous chemicals are involved.

Training provided may include video/DVD, slide presentations, visual demonstrations, or other appropriate teaching techniques. General training on hazardous chemicals is not sufficient, however. It is necessary to effectively communicate to employees the hazards associated with the chemicals used in each work area. Although the HCS does not specify a training frequency, best practices dictate that the topic of hazard communication training should be reviewed with employees at least annually. General and job-specific information needs must also be considered. Additional training by department, by hazard category, or by complete coverage of the HCS will be considered and implemented as necessary.

VIII. CONTRACTOR COMMUNICATION

Before beginning any work in the facility, Our Company will ensure that contractors and their employees have been provided with:

- A list of hazardous chemicals to which they may be exposed while in the facility
- A description of protective measures needed or provided to prevent hazardous exposure
- Information regarding where the SDSs are located and any necessary safety precautions
- An opportunity to answer any safety or health related questions

Additionally, if a contractor introduces hazardous chemicals into the Company work space, the contractor will be required to identify each chemical, provide an SDS for each chemical, and ensure the chemical is appropriately labeled. The contractor should have its own written Hazard Communication Program and should have trained its employees. Our management and employees have a right to examine SDSs of products used by contractors.

Below is a description of how the chemical inventory, protective measures, and location of safety data sheets will be communicated with contractors and other employers. (List specifics of your communication procedures i.e. written, electronic, verbal, or a combination of the three)

IX. RECORDKEEPING

The Program Administrator is responsible for maintaining the following records:

- The Hazard Communication Program document
- A current and complete inventory of hazardous chemicals
- SDSs corresponding to the current inventory of hazardous chemicals
- An SDS obsolete file that includes an index of all obsolete hazardous chemicals and their corresponding SDSs (retention requirement is not less than 30 years), the dates of use and the date the chemical was removed from the facility, and the location(s) where the obsolete chemical was used or stored
- Results of the annual chemical review (retention requirement is not less than 3 years)
- Written training records for each employee detailing the extent of training received and the date it was received (retention requirement is duration of employment)

Appendix A: Definitions

In order to be consistent with the Globally Harmonized System (GHS), the Occupational Safety and Health Administration (OSHA) has added, deleted, and modified a number of the definitions. In 2012, the following changes were made to definitions in the Hazard Communication Standard.

Added the Following Definitions

- Classification
- Hazard Category
- Hazard Class
- Hazard Not Otherwise Classified
- Hazard Statement
- Label Elements
- Pictogram
- Precautionary Statement
- Product Identifier
- Pyrophoric Gas
- Safety Data Sheet
- Signal Word
- Simple Asphyxiant
- Substance

Deleted the Following Definitions

- Combustible Liquid
- Compressed Gas
- Explosive
- Flammable
- Flashpoint
- Hazard Warning
- Identity
- Material Safety Data Sheet
- Organic Peroxide
- Oxidizer
- Pyrophoric
- Unstable (Reactive)
- Water-Reactive

Revised the Following Definitions

- Chemical
- Chemical Name
- Hazardous Chemical
- Health Hazard
- Label
- Mixture
- Physical Hazard
- Trade Secret

Below are the definitions used in the amended HCS:

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

Assistant Secretary means the Assistant Secretary of Labor for Occupational Safety and Health, U.S. Department of Labor, or designee.

Chemical means any substance, or mixture of substances. Chemical manufacturer means an employer with a workplace where chemical(s) are produced for use or distribution.

Chemical name means the scientific designation of a chemical in accordance with the nomenclature system developed by the International Union of Pure and Applied Chemistry (IUPAC) or the Chemical Abstracts Service (CAS) rules of nomenclature, or a name that will clearly identify the chemical for the purpose of conducting a hazard classification.

Classification means to identify the relevant data regarding the hazards of a chemical; review those data to ascertain the hazards associated with the chemical; and decide whether the chemical will be classified as hazardous according to the definition of hazardous chemical in this section. In addition, classification for health and physical hazards includes the determination of the degree of hazard, where appropriate, by comparing the data with the criteria for health and physical hazards.

Commercial account means an arrangement whereby a retail distributor sells hazardous chemicals to an employer, generally in large quantities over time and/or at costs that are below the regular retail price.

Common name means any designation or identification such as code name, code number, trade name, brand name or generic name used to identify a chemical other than by its chemical name.

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

Designated representative means any individual or organization to which an employee gives written authorization to exercise such employee's rights under this section. A recognized or certified collective bargaining agent shall be treated automatically as a designated representative without regard to written employee authorization.

Director means the Director, National Institute for Occupational Safety and Health, U.S. Department of Health and Human Services, or designee.

Distributor means a business, other than a chemical manufacturer or importer, which supplies hazardous chemicals to other distributors or to employers.

Employee means a worker who may be exposed to hazardous chemicals under normal operating conditions or in foreseeable emergencies. Workers such as office workers or bank tellers who encounter hazardous chemicals only in non-routine, isolated instances are not covered.

Employer means a person engaged in a business where chemicals are either used, distributed, or are produced for use or distribution, including a contractor or subcontractor.

Exposure or exposed means that an employee is subjected in the course of employment to a chemical that is a physical or health hazard, and includes potential (e.g. accidental or possible) exposure. Subjected in terms of health hazards includes any route of entry (e.g. inhalation, ingestion, skin contact or absorption.)

Foreseeable emergency means any potential occurrence such as, but not limited to, equipment failure, rupture of containers, or failure of control equipment which could result in an uncontrolled release of a hazardous chemical into the workplace.

Hazard category means the division of criteria within each hazard class, e.g., oral acute toxicity and flammable liquids include four hazard categories. These categories compare hazard severity within a hazard class and should not be taken as a comparison of hazard categories more generally.

Hazard class means the nature of the physical or health hazards, e.g., flammable solid, carcinogen, oral acute toxicity.

Hazard not otherwise classified (HNOC) means an adverse physical or health effect identified through evaluation of scientific evidence during the classification process that does not meet the specified criteria for the physical and health hazard classes addressed in this section. This does not extend coverage to adverse physical and health effects for which there is a hazard class addressed in this section, but the effect either falls below the cut-off value/concentration limit of the hazard class or is under a GHS hazard category that has not been adopted by OSHA (e.g., acute toxicity Category 5).

Hazard statement means a statement assigned to a hazard class and category that describes the nature of the hazard(s) of a chemical, including, where appropriate, the degree of hazard.

Hazardous chemical means any chemical which is classified as a physical hazard or a health hazard, a simple asphyxiant, combustible dust, pyrophoric gas, or hazard not otherwise classified.

Health hazard means a chemical which is classified as posing one of the following hazardous effects: acute toxicity (any route of exposure); skin corrosion or irritation; serious eye damage or eye irritation; respiratory or skin sensitization; germ cell mutagenicity; carcinogenicity; reproductive toxicity; specific target organ toxicity (single or repeated exposure); or aspiration hazard. The criteria for determining whether a chemical is classified as a health hazard are detailed in Appendix A to §1910.1200—Health Hazard Criteria.

Immediate use means that the hazardous chemical will be under the control of and used only by the person who transfers it from a labeled container and only within the work shift in which it is transferred.

Importer means the first business with employees within the Customs Territory of the United States which receives hazardous chemicals produced in other countries for the purpose of supplying them to distributors or employers within the United States.

Label means an appropriate group of written, printed or graphic information elements concerning a hazardous chemical that is affixed to, printed on, or attached to the immediate container of a hazardous chemical, or to the outside packaging.

Label elements means the specified pictogram, hazard statement, signal word and precautionary statement for each hazard class and category.

Mixture means a combination or a solution composed of two or more substances in which they do not react.

Physical hazard means a chemical that is classified as posing one of the following hazardous effects: explosive; flammable (gases, aerosols, liquids, or solids); oxidizer (liquid, solid or gas); self-reactive; pyrophoric (liquid or solid); self-heating; organic peroxide; corrosive to metal; gas under pressure; or in contact with water emits flammable gas. See Appendix B to §1910.1200—Physical Hazard Criteria.

Pictogram means a composition that may include a symbol plus other graphic elements, such as a border, background pattern, or color, that is intended to convey specific information about the hazards of a chemical. Eight pictograms are designated under this standard for application to a hazard category.

Precautionary statement means a phrase that describes recommended measures that should be taken to minimize or prevent adverse effects resulting from exposure to a hazardous chemical or improper storage or handling.

Produce means to manufacture, process, formulate, blend, extract, generate, emit, or repackage.

Product identifier means the name or number used for a hazardous chemical on a label or in the SDS. It provides a unique means by which the user can identify the chemical. The product identifier used shall permit cross-references to be made among the list of hazardous chemicals required in the written hazard communication program, the label and the SDS.

Pyrophoric gas means a chemical in a gaseous state that will ignite spontaneously in air at a temperature of 130 degrees F (54.4 degrees C) or below.

Responsible party means someone who can provide additional information on the hazardous chemical and appropriate emergency procedures, if necessary.

Safety data sheet (SDS) means written or printed material concerning a hazardous chemical that is prepared in accordance with GHS requirements.

Signal word means a word used to indicate the relative level of severity of hazard and alert the reader to a potential hazard on the label. The signal words used in this section are “danger” and “warning.” “Danger” is used for the more severe hazards, while “warning” is used for the less severe.

Simple asphyxiant means a substance or mixture that displaces oxygen in the ambient atmosphere, and can thus cause oxygen deprivation in those who are exposed, leading to unconsciousness and death.

Specific chemical identity means the chemical name, Chemical Abstracts Service (CAS) Registry Number, or any other information that reveals the precise chemical designation of the substance.

Substance means chemical elements and their compounds in the natural state or obtained by any production process, including any additive necessary to preserve the stability of the product and any impurities deriving from the process used, but excluding any solvent which may be separated without affecting the stability of the substance or changing its composition.

Trade secret means any confidential formula, pattern, process, device, information or compilation of information that is used in an employer's business, and that gives the employer an opportunity to obtain an advantage over competitors who do not know or use it. Also see Appendix E to §1910.1200—Definition of Trade Secret.

Use means to package, handle, react, emit, extract, generate as a byproduct, or transfer.

Work area means a room or defined space in a workplace where hazardous chemicals are produced or used, and where employees are present.

Workplace means an establishment, job site, or project, at one geographical location containing one or more work areas.

Appendix B: Safety Data Sheet Sections

Safety Data Sheets (SDS) Requirements

The amended Hazard Communication Standard (HCS) requires chemical manufacturers, distributors, or importers to update the Material Safety Data Sheet (MSDS) to conform to the Globally Harmonized System (GHS) requirement for a Safety Data Sheet (SDS) by June 1, 2015. Intended to provide comprehensive information about a chemical substance or mixture, the information in an SDS must be presented in a uniform format using the following 16 headings in specific order.

Employers must ensure that each hazardous substance used on site has an appropriate SDS, the SDS is available in a language understood by all employees, and is readily available during all shifts to all employees, including contractors who work with hazardous chemicals.

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- **Section 1** Identification - Product name and use, the manufacturer, and a number to call in case of an emergency are identified.
- **Section 2** Hazard identification - Physical, health, and environmental hazards, GHS standard and transport pictograms, and hazard and precautionary statements are listed.
- **Section 3** Composition/information on ingredients - Components of the substance and their concentration as well as their Chemical Abstract Service numbers, European Commission numbers, and European Chemical Agency numbers are listed.
- **Section 4** First-aid measures - How to treat chemical exposures such as contact with the eyes and skin, inhalation, and ingestion are detailed.
- **Section 5** Firefighting measures - Identifies appropriate and inappropriate fire extinguisher agents to be used in the event of a fire, the exposure hazards, the combustion products, and the personal protection to be worn by firefighters.
- **Section 6** Accidental release measures - Personal precautions, environmental precautions, and methods for clean up to be used in the event of a spill are listed.
- **Section 7** Handling and storage - Procedures for safe handling and storage of the chemical are listed.
- **Section 8** Exposure controls/personal protection - Exposure limits and the controls and monitoring required to prevent exposure above these limits are detailed. Also included are personal protective equipment needed to prevent exposure.

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- **Section 9** Physical and chemical properties - Various properties of the substance, such as appearance, odor, flash point, specific gravity, flammability limits and vapor density are listed.
- **Section 10** Stability and reactivity - Stability, hazardous decomposition products, conditions to avoid, and incompatible materials are listed.
- **Section 11** Toxicological information - Routes of entry to the human body as well as the symptoms and effects of exposure to the chemical are detailed.
- **Section 12*** Ecological information - Identifies product's effect on plants or animals and its ultimate environmental disposition.
- **Section 13*** Disposal considerations - Details how to safely dispose of the chemical.
- **Section 14*** Transport information - Proper shipping name, hazard class, UN Identification Number, Transport Label required, and other information required for transporting the product are listed.
- **Section 15*** Regulatory information - Documents the chemical's classification under federal regulations and may include applicable state and international regulations as well as European Union classification and EU risk and safety phrases.
- **Section 16** Other information - Chemical manufacturers may provide information not found in the first 15 sections such as manufacturer's e-mail address, the intended use of product, what agency issued the data sheet, date of issue, a and full explanation of risk and safety phrases.

** These sections are not mandated or enforced by OSHA. However, manufacturers, exporters, and distributors will likely include this information on SDSs.*

Appendix C: Labeling Requirements

Our Company will ensure that each container of hazardous chemicals in the workplace is labeled, tagged, or marked with either:

1. The information specified below for labels on shipped containers; or,
2. Product identifier and words, pictures, symbols, or combination thereof, which provide at least general information regarding the hazards of the chemicals, and which, in conjunction with the other information immediately available to employees under the hazard communication program, will provide employees with the specific information regarding the physical and health hazards of the hazardous chemical.

Labels on Shipped Containers

The chemical manufacturer, importer, or distributor is required to ensure that each container of hazardous chemicals shipped is labeled, tagged or marked. Hazards not otherwise classified do not have to be addressed on the container. Where the chemical manufacturer or importer is required to label, tag, or mark the following information must be provided:

- Product identifier;

- Signal word;
- Hazard statement(s);
- Pictogram(s);
- Precautionary statement(s); and,
- Name, address, and telephone number of the chemical manufacturer, importer, or other responsible party

Containers in the Workplace

Our Company is allowed, at our option, to use signs, placards, process sheets, batch tickets, operating procedures, or other such written materials in lieu of affixing labels to individual stationary process containers, as long as the alternative method identifies the containers to which it is applicable and conveys the required information. If alternative methods are used, our company will ensure the written materials are readily accessible to the employees in their work area throughout each work shift .

Our Company and employees are not required to label portable containers into which hazardous chemicals are transferred from labeled containers, and which are intended only for the immediate use of the employee who performs the transfer.

The Program Administrator and Supervisors will ensure that no one will remove or deface existing labels on incoming containers of hazardous chemicals, unless the container is immediately marked with the required information. In addition, the Program Administrator will ensure that workplace labels or other forms of warning are legible, in English, and prominently displayed on the container, or readily available in the work area throughout each work shift . Employers having employees who speak other languages may add the information in their language to the material presented, as long as the information is presented in English as well.



Pictograms

There are nine pictograms under the Globally Harmonized System (GHS) to convey the health, physical, and environmental hazards. The final hazard communication standard (HCS) requires eight of these pictograms, with the exception being the environmental pictogram as environmental hazards are not within the Occupational Health and Safety Administration's (OSHA) jurisdiction. The hazard pictograms and their corresponding hazards are detailed below.

| | | |
|--|--|---|
| Health Hazard  <ul style="list-style-type: none">• Carcinogen• Mutagenicity• Reproductive Toxicity• Respiratory Sensitizer• Target Organ Toxicity• Aspiration Toxicity | Flame  <ul style="list-style-type: none">• Flammables• Pyrophorics• Self-Heating• Emits Flammable Gas• Self-Reactives• Organic Peroxides | Exclamation Mark  <ul style="list-style-type: none">• Irritant (skin and eye)• Skin Sensitizer• Acute Toxicity (harmful)• Narcotic Effects• Respiratory Tract Irritant• Hazardous to Ozone Layer (Non-Mandatory) |
| Gas Cylinder  <ul style="list-style-type: none">• Gases Under Pressure | Corrosion  <ul style="list-style-type: none">• Skin Corrosion/ Burns• Eye Damage• Corrosive to Metals | Exploding Bomb  <ul style="list-style-type: none">• Explosives• Self-Reactives• Organic Peroxides |
| Flame Over Circle  <ul style="list-style-type: none">• Oxidizers | Environment (Non-Mandatory)  <ul style="list-style-type: none">• Aquatic Toxicity | Skull and Crossbones  <ul style="list-style-type: none">• Acute Toxicity (fatal or toxic) |

Sample Label

(Illustration Only)

| | |
|---|-----------------------------|
| SAMPLE LABEL | |
| CODE _____ Product Name _____ | } Product Identifier |
| Company Name _____ Street Address _____ City _____ State _____ Postal Code _____ Country _____ Emergency Phone Number _____ | |
| } Supplier Identification | |
| Hazard Pictograms   | |
| Signal Word Danger | |
| Hazard Statements Highly flammable liquid and vapor. May cause liver and kidney damage. | |
| Precautionary Statements Keep container tightly closed. Store in a cool, well-ventilated place that is locked. Keep away from heat/sparks/open flame. No smoking. Only use non-sparking tools. Use explosion-proof electrical equipment. Take precautionary measures against static discharge. Ground and bond container and receiving equipment. Do not breathe vapors. Wear protective gloves. Do not eat, drink or smoke when using this product. Wash hands thoroughly after handling. Dispose of in accordance with local, regional, national, international regulations as specified. | |
| Supplemental Information Directions for Use _____ _____ _____ In Case of Fire: use dry chemical (BC) or Carbon Dioxide (CO ₂) fire extinguisher to extinguish. First Aid If exposed call Poison Center. If on skin (or hair): Take off immediately any contaminated clothing. Rinse skin with water. | |
| Fill weight: _____ Lot Number: _____ Gross weight: _____ Fill Date: _____ Expiration Date: _____ | |

Appendix D: Sample SDS Request Letter

Date:

ABC Chemical Company 428 Industrial Street Institute, West Virginia 25303

RE: Evolution Maintenance, Inc. Safety Department 105 Flex Ave. Portland, TN 37148

Purchase Order No. Purchase Order Date

Dear Name or Position:

Our Company recently purchased the following chemical(s) from your company. The Safety Data Sheets (SDS) were not provided.

(List of Chemicals)

Please immediately send us the SDSs for these chemicals.

Thank you for your assistance. If you have any questions regarding this matter, please contact me at (insert phone number).

Sincerely,

Name Title Department

Appendix E: Globally Harmonized System (GHS) Test Questions

1. What does GHS stand for?
 - a. Global Hazard System
 - b. Globally Harmonized System
 - c. Global Hazard Standard
 - d. Globally Harmonized Standard
2. The purpose of GHS is to provide a common method of chemical classification and hazard communication across various countries.
 - a. True
 - b. False
3. Which of the following are benefits of GHS to companies?
 - a. Reduced costs due to fewer accidents
 - b. Safer work environments for employees
 - c. Increased efficiency
 - d. All of the above
4. Which of the following is not part of the GHS classification criteria?
 - a. Physical hazards
 - b. Mixtures
 - c. Human hazards
 - d. Health hazards
5. Labels and Safety Data Sheets are prime components of the GHS hazard communication document.
 - a. True
 - b. False
6. Physical hazard criteria for classification do not apply to mixtures.
 - a. True
 - b. False
7. Which of the following is not a physical hazard?
 - a. Gas
 - b. Liquid
 - c. Invisible
 - d. Solid
8. A solid is a substance or mixture that does not meet the definitions of a liquid or gas.
 - a. True
 - b. False
9. Chemicals that have carcinogen, toxic, and irritant properties are considered health hazards.
 - a. True
 - b. False
10. The main tools to communicate hazards to employees and others according to GHS are:
 - a. Safety data sheets
 - b. E-mail notifications
 - c. Labels
 - d. A & C
 - e. All of the above

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11. Labels require:
- a. Symbols and pictograms
 - b. Signal words
 - c. Precautionary statements
 - d. Product name or identifier
 - e. A, B and C
 - f. All of the above
12. Which are indicated signal words of GHS?
- a. Danger
 - b. Warning
 - c. Caution
 - d. A and B
 - e. All of the above
13. An appropriate statement for each GHS hazard should be included on the label for products possessing more than one hazard.
- a. True
 - b. False
14. Indicate which is not a GHS precautionary statement type:
- a. General
 - b. Prevention
 - c. Response
 - d. Mitigation
 - e. Storage
 - f. Disposal
15. There is a specified label format and layout required by GHS.
- a. True
 - b. False
16. Safety Data Sheets apply to:
- a. Mixtures and substances
 - b. Substances only
 - c. Other substances not meeting GHS criteria but containing certain concentrations of hazardous substances
 - d. A & C
17. There are 16 sections of a GHS Safety Data Sheet.
- a. True
 - b. False
18. Which of the following is included in Safety Data Sheet, Section 4: First Aid Measures?
- a. Routes of entry
 - b. Symptoms & effects
 - c. Indication of medical attention
 - d. All of the above
19. Safety Data Sheet, Section 7 Handling & Storage, also describes disposal methods.
- a. True
 - b. False
20. The last section of the Safety Data Sheet, Section 16 Other Information, indicates the date of the latest version of the SDS.
- a. True
 - b. False

Appendix F: Globally Harmonized System (GHS) Test Answers

1. b. Globally Harmonized System
2. a. True
3. d. All of the above
4. c. Human hazards
5. a. True
6. b. False: Physical Hazard criteria do apply to mixtures.
7. c. Invisible
8. a. True
9. a. True
10. d. A & C
11. f. All of the above
12. d. A and B
13. a. True
14. d. Mitigation
15. b. False: There is no specific label format as required by GHS.
16. d. A & C
17. a. True
18. d. All of the above
19. b. False: Disposal methods are described in Section 13 Disposal Considerations.
20. a. True

Industrial Ergonomics Program

INTRODUCTION

The company is firmly committed to the safety of our employees. Ergonomics is the science of fitting the job to the person rather than the person to the job in order to create the most hazard-free and comfortable work environment. This process is achieved by evaluating and designing workstations, environments, job tasks, equipment, and processes in relationship to human capabilities and interactions in the workplace. The goal of ergonomics is to enhance human performance while improving safety, health, comfort, and job satisfaction.

It is essential for management, supervisors, and employees to have involvement with this process. Job tasks that require employees to repeat the same motion throughout their workday, perform their work in an awkward position, use a great deal of physical force to do their jobs, repeatedly lift heavy objects, or face a combination of these risks, are exposed to hazards that could lead to musculoskeletal disorders and, therefore, must comply with this program.

SCOPE AND APPLICATION

The purpose of this Program is to prevent and control workrelated musculoskeletal disorders while improving employee efficiency and comfort. This goal will be accomplished by using a combination of education, training, guidelines, jobtask evaluations, and ergonomic interventions.

Definition of Ergonomic Terms Musculoskeletal System Comprised of soft tissues and bones in the human body, the musculoskeletal system includes:

- Bones - the load-bearing structure of the body
 - Muscles - tissues that contract to create movement
 - Tendons - tissues that connects muscles to bones
 - Ligaments - tissues that connects bones to bones
 - Cartilage - tissues that provide cushioning and reduce friction between bones
 - Nerves - communication system that links muscles, tendons, and other tissues with the brain
 - Blood vessels - tubes that circulate nutrients throughout the body
- Musculoskeletal Disorders (MSDs) MSDs are sprains, strains, inflammation, degeneration, tears, or other soft tissue injuries to the musculoskeletal system. MSDs usually occur over time, rather than resulting from a single event. Other terms used for MSDs include cumulative trauma disorders (CTDs), repetitive trauma syndrome, or repetitive strain injuries. This Program contains the following elements, which will be discussed in more detail below.
- Assignment of Responsibilities
 - Ergonomic Assessment Team

- Worksite and Job Hazard Analyses
- Office Ergonomics
- Ergonomic Risk Factor and Hazard Control
- Employee Safety Training
- Recordkeeping
- Program Audit

I. ASSIGNMENT OF RESPONSIBILITIES

The President of Evolution Maintenance, inc. is the Program Administrator. Management has the ultimate responsibility for the implementation, maintenance, and success of this Program, and the responsibilities are generally delegated to a named and documented Program Administrator, supervisors, and the affected employees themselves.

Management will:

- Provide adequate and timely resources necessary to support this Program
- Appoint a Program Administrator with the requisite knowledge, experience, training, and authority to direct this Program
- Evaluate job duties to identify potential hazards and the appropriate control methods for each job task
- Ensure proper employee safety training is provided
- Establish and enforce safe work practices and procedures
- Ensure that workplace evaluations are conducted whenever an employee reports a problem

Program Administrator is responsible for the development, administration, and monitoring of this Program and has full authority to make necessary decisions to ensure its success and to halt any operations that pose uncontrolled hazards. The Program Administrator will review and evaluate this Program on a regular basis to account for changes that may occur to OSHA standards, changes implemented due to corrective actions, or any time the Program does not appear to be adequate.

In addition, the Program Administrator is responsible for:

- Establishing ergonomic policy and performing program oversight
- Providing technical expertise to management regarding ergonomic practices and principles
- Setting criteria for qualified ergonomic evaluators to conduct job task analysis and ergonomic assessments

- Conducting ergonomic assessments
- Ensuring that control measures are implemented in a timely manner
- Ensuring that a system is in place for employees to report MSD signs or symptoms and suspected work-related risk factors to managers and supervisors
- Developing and coordinating ergonomic training and educational curriculum, including supporting materials and literature
- Maintaining training records, including the date of training, name of instructor, topic, and materials used
- Evaluating the effectiveness of this Program's policies and implementation Supervisors are responsible for assisting in the implementation of the Program and ensuring that employees are trained and comply with the Program. In addition, supervisors are responsible for:
 - Understanding and communicating the elements of the Program, including identification, assessment, and control of work-related ergonomic risk factors, MSD signs and symptoms, requirements and procedures for early reporting, and medical management
 - Assigning and directing resources to effectively manage ergonomic assessments, workstation modification, and follow-up
 - Ensuring that ergonomic assessments are conducted as appropriate
 - Ensuring that employees have received the appropriate training and understand MSD signs and symptoms and the benefits of early reporting
 - Ensuring that employees are provided with and use the appropriate tools, equipment, parts, and materials in accordance with the Program
 - Responding promptly to employee ergonomic concerns
 - Communicating and coordinating with return-to-work directives and reasonable accommodation, if necessary.
 - Maintaining clear communication with management and employees

Employees are responsible for following the work practices and procedures established by this Program. Employees are also responsible for informing their supervisors of any unsafe work practices, conditions, or concerns they observe or may have as it relates to this Program.

In addition, employees are responsible for:

may be a need to remove names and other information in order to maintain confidentiality.

- Participating in ergonomics training and applying the knowledge and skills acquired to actual jobs, tasks, processes, and work activities

- Following guidance and recommendations as identified through ergonomic assessments
- Promptly reporting ergonomic workplace hazards and injuries

II. ERGONOMIC ASSESSMENT TEAM

The ergonomic assessment team will include employees from all levels ensuring a mix of expertise and practical experience and will be chaired by the Program Administrator. The ergonomic assessment team will convene on a regular basis and will actively develop, implement, and evaluate ergonomic hazards and determine appropriate controls. This will include initial and regular workplace hazard assessments to continually evaluate hazards and monitor controls.

Training for all team members will include understanding and identifying ergonomic risk factors, the options for controlling risk factors, and the procedures for reporting and addressing employee-reported MSD signs and symptoms.

III. WORKSITE AND JOB HAZARD ANALYSES

Worksite Analysis

A worksite analysis is a safety and health review that reviews job tasks and workstation operations for ergonomic risk factors. The purpose of the analysis is to evaluate the risk factors to determine if there are uncontrolled exposures and hazards and to implement corrective action to address the uncontrolled exposures and hazards. The ergonomic assessment team is responsible for worksite analyses.

Before beginning an individual analysis of a job or workstation and subsequently on an on-going basis, the ergonomic assessment team will review injury and illness records to identify and evaluate patterns of MSDs. As some of these records may contain confidential information, there

Potential records that may be reviewed include:

- OSHA Form 300 - Log of Work-Related Injuries and Illnesses
- OSHA Form 300A – Summary of Work-Related Injuries and Illnesses
- OSHA Form 301 – Injury and Illness Incident Report
- Workers' compensation claims
- First-aid records
- Accident and incident reports
- Worksite inspections
- Safety committee meeting minutes
- Job descriptions

- Equipment and tool ergonomic evaluations
- Employee-reported concerns and symptoms

While reviewing records, the ergonomics assessment team will also seek to identify patterns of MSD symptoms that are associated with risk factors including:

- Discomfort or pain in hands, wrists, joints, shoulders, neck, back, forearms, knees, and feet
- Burning, tingling, or numbing
- Swelling or inflammation
- Stiffness, heaviness, or weakness

See Appendix A, General Ergonomic Assessment Form.

As patterns of MSDs are identified and evaluated, priority for worksite analysis will be placed on those jobs and workstation operations that have the greatest potential for uncontrolled exposures and hazards followed by those jobs and workstation operations that have less potential for uncontrolled exposures and hazards.

Job Hazard Analysis

After priority has been established, the ergonomic assessment team will identify specific risk factors and hazards associated with the job or workstation operations by conducting a job hazard analysis. A job hazard analysis is an observation and discussion of step-by-step work tasks to identify, evaluate, and subsequently control the ergonomic risk factors and hazards of a specific job. It focuses on the relationship among the employee, the task, the tools, and the work environment.

The following ergonomic risk factors will be identified and evaluated. If more than one risk factor is present, it can have a synergistic effect and substantially increase the risk for an MSD. In addition, frequency, duration, and amount of the risk factor may affect the risk of injury.

- **Awkward Posture** Awkward postures are non-neutral postures that do not allow the body to function in its strongest and most efficient state. Awkward postures may increase irritation, strain, and stress to the joints, muscles, tendons, ligaments, nerves.
- **Repetition** Repetition is the number of times that a motion or movement pattern is performed. Highly repetitive tasks that are performed for prolonged periods of time are higher risk.
- **Contact Stress** Contact stress occurs internally when a tendon, nerve, or blood vessel is stretched or bent around a bone or tendon, or externally, when any part of the body is in repeated or continuous contact with a sharp or hard surface. Contact stress causes compression to the soft tissues, specifically nerves and blood vessels, which may result in irritation, constriction, and/or damage.

- **Forceful Exertion** Forceful exertion is the amount of muscular effort required to perform a task, and includes such tasks as lifting, carrying, pushing, pulling, pinching, grasping, or prolonged holding. Force may cause injury to soft tissues.
- **Vibration** Vibration is a series of mechanical fluctuations around an equilibrium point. When a specific part of the body comes in contact with a vibrating object, such as a power tool, or there is whole-body vibration, such as standing or sitting in vibrating environments like large machinery or trucks, injury to soft tissues may occur.
- **Other Conditions** Other conditions that may influence the magnitude of ergonomic risk factors include insufficient pauses and rest breaks for recovery, machine paced work, unfamiliar or unaccustomed work, and environmental factors, such as temperature.

After the job hazard analysis has been completed, the ergonomic assessment team will evaluate and implement appropriate controls for the identified and uncontrolled risk factors. Controls will be implemented in the order of effectiveness by placing emphasis on engineering controls, followed by work practice/administrative controls and personal protective equipment (PPE).

- **Engineering Controls** Engineering controls reduce employee exposure by removing, eliminating, or isolating the risk factor/hazard. Examples of engineering controls include organizing workstations to eliminate awkward postures or using pneumatic power tools.
- **Work Practice/Administrative Controls** Work practice and administrative controls reduce the likelihood of exposure to the risk factor/hazard by altering how tasks are performed. Examples of work practice/administrative controls include varying repetitive tasks or changing the speed of machine-paced work.
- **PPE** PPE is specialized equipment worn by an employee as protection from the risk factor/hazard. Examples of PPE controls include gloves, knee pads, and footwear.

Documentation of worksite and job hazard analyses, including implemented controls, will be maintained by the ergonomic assessment team.

IV. OFFICE ERGONOMICS

The following guidelines are intended for employees who spend four or more hours per day using a personal computer. An evaluation will be conducted for each computer workstation to identify individual ergonomic risk factors and document the controls implemented. See Appendix B, Computer Workstation Evaluation Form.

Workstation Design Key components of individual workstation design should consider:

- Chair
- Keyboard and Mouse
- Monitor
- Lighting

- Workspace and Tools

See the Appendix C, Computer Workstation Layout.

Chair The chair should support a neutral posture, which includes the following.

- **Backrest** The backrest supports the user when seated in a neutral posture. Depending upon the chair's particular features, the backrest can go up or down and can tilt forward or backward. The height of the backrest should be positioned so that the user has adequate lumbar and thoracic back support. The tilt should be locked in an upright position no less than a 90-degree angle and no more than a 110-degree angle.
- **Seat Pan** The seat pan is what the user sits on. If adjustable, the seat pan should be adjusted so that it allows two to three inches of space behind the knees. This space is needed to ensure there is no contact stress between the back of the knee and the seat pan. While maintaining the two to three-inch space from the knees to the seat pan, the seat pan should be positioned to allow proper use of the backrest.
- **Armrests** Armrests are intended to gently support arms during a resting period. They are not intended to support arms for an extended period of time. Use of armrests should not cause shrugging or tensing of the shoulders. Ideally, the arms rests should be positioned to support forearms in a 90-degree position.
- **Chair Height** The chair height should be adjusted so that the user's knees are at minimum of 90-degree angle to the floor and the user's feet are flat and well supported. A footrest may be used to create a supported area.

Keyboard and Mouse

- **Keyboard** The height and angle of the keyboard should be adjusted so that the shoulders, forearms, wrists, and hands are straight and relaxed. It is important to avoid ulnar (wrist bend toward the end finger) and radial deviation (wrist bend toward thumb), wrist extension (elevation of the wrist joint), and contact stress on wrists.

The keyboard should be located directly in front of the monitor, which will avoid any twisting or awkward postures of the head, neck, or body.

- **Mouse** A mouse should appropriately support the user's palm, which will avoid contact stress and awkward postures.

The mouse should be located next to and on the same plane as the keyboard, which will avoid awkward postures.

Monitor

- **Height** The top of the monitor should be even or slightly below the user's forehead. If a user wears corrective lenses, such as bi or trifocals, the monitor height should be increased or decreased as appropriate to allow for neutral posture.

- Distance The monitor distance from the user should be about a user's arm-length away. If a user is near or far sighted, the monitor height and/or distance should be increased or decreased as appropriate to allow for neutral posture.

Lighting

Light sources should be arranged to provide adequate illumination without reflecting off the monitor, which creates glare and may lead to eye-related discomfort or injuries. When this is not feasible, users should adjust monitors so that light sources are perpendicular to the monitor or use anti-glare tools.

Workspace and Phone

- Workspace A well organized and properly arranged workspace allows neutral posture while also improving efficiency. Each computer workstation should have adequate workspace for all books, documents, and equipment needed for all tasks performed at the workstation.

The overall workspace should be organized according to usual use, occasional use, and rare use. Items that are used most should be closest to the user, followed by occasional use and rare use.

- Phone Phones should not be cradled between the user's neck and shoulder. Instead, the phone should be hand-held. In the event that multi-tasking is necessary during phone use, consideration should be given other tools, such as a speaker phone or a headset.

V. ERGONOMIC RISK FACTOR AND HAZARD CONTROL

When ergonomic risk factors and hazards have been identified and evaluated, corrective action will be taken to control those risk factors and hazards. The following hierarchy of controls will be followed to address identified risk factors and hazards.

- Engineering Controls Engineering controls reduce employee exposure by removing, eliminating, or isolating the risk factor/hazard. Examples of engineering controls include organizing workstations to eliminate awkward postures or using pneumatic power tools.
- Work Practice/Administrative Controls Work practice and administrative controls reduce the likelihood of exposure to the risk factor/hazard by altering how tasks are performed. Examples of work practice/administrative controls include varying repetitive tasks or changing the speed of machine-paced work.
- PPE PPE is specialized equipment worn by an employee as protection from the risk factor/hazard. Examples of PPE include gloves, knee pads, and footwear.

VI. EMPLOYEE SAFETY TRAINING

Safety training is essential to help employees recognize work-related ergonomic risk factors and to understand and apply appropriate control strategies. Ergonomic training will be provided:

- To all new employees

- To employees upon a new job assignment for which jobspecific ergonomic training has not yet been provided

- When new tasks, tools, equipment, machinery, workstations, or processes are introduced

General ergonomic safety training will include the following.

- An introduction to the Program and its role in coordinating with the Injury and Illness Prevention Program (IIPP)
- Risk factors associated with MSDs
- MSD signs and symptoms and the importance of early reporting to management
- Controls to minimize ergonomic risk factors

Job-specific ergonomic safety training will include the following.

- Risk factors identified by the job hazard analysis
- Engineering, work practice/administrative, and PPE implemented to minimize the risk factors
- Appropriate equipment and tool selection and use
- Appropriate selection and use of PPE

Documentation of training will be maintained and include the name of the employee, the name of the trainer, the date of the training, the objectives of the training, and verification of understanding of the training. See Appendix E, Industrial Ergonomics Test Questions, and Appendix F, Industrial Ergonomics Test Answers.

VII. RECORDKEEPING

The Program Administrator will maintain records of the following.

- Ergonomic Assessment Team meeting minutes
- Worksite analyses and supporting documentation
- Job hazard analyses and supporting documentation
- Office ergonomic evaluation records
- Employee training records
- Program audits

VIII. PROGRAM AUDIT

At least annually, the Program Administrator will conduct an audit of the Program to evaluate its effectiveness. Based on the results of the audit, changes may be made to the Program to increase its effectiveness to ensure appropriate control of ergonomic risk factors.

Appendix A - General Ergonomic Assessment Form

| # | Ergonomic Risk Factor Criteria | Yes | No | Comments |
|----|--|-----|----|----------|
| | Repetition | | | |
| 1 | Repeating the same motions every few seconds or repeating a cycle of motions involving the affected body part more than twice per minute for more than two consecutive hours in a workday? | | | |
| 2 | Using an input device, such as a keyboard and/or mouse in a steady manner for more than four hours in a workday? | | | |
| | Force | | | |
| 3a | Lifting more than 75 pounds at any one time during the workday? | | | |
| 3b | Lifting more than 55 pounds more than 10 times per day? | | | |
| 3c | Lifting more than 25 pounds below the knees, above the shoulders, or at arms' length more than 25 times per day? | | | |
| 4 | Pushing or pulling with more than 20 pounds of initial force for more than two hours per day? (This is the equivalent of pushing a 65 pound box across a tile floor or pushing a shopping cart with five 40 pound bags of dog food). | | | |
| 5 | Pinching an unsupported object weighing two or more pounds per hand, or using an equivalent pinching force for more than two hours total per day? (This is the equivalent of holding a small binder clip open). | | | |
| 6 | Gripping an unsupported object weighing 10 pounds or more per hand, or using an equivalent gripping force for more than two hours total per day? (This is the equivalent of crushing the sides of an aluminum soda can with one hand). | | | |

Evolution Maintenance 2018 Safety Plan with 2021 & 2024 Supplement

| # | Ergonomic Risk Factor Criteria | Yes | No | Comments |
|----|---|-----|----|----------|
| | Awkward Postures | | | |
| 7a | Repeatedly raising or working with the hand(s) above the head for more than two hours total per day? | | | |
| 7b | Repeatedly raising or working with the elbow(s) above the shoulders for more than two hours total per day? | | | |
| 8 | Kneeling or squatting for more than two hours total per day? | | | |
| 9a | Working with the back or neck bent 30 degrees or more or twisted for more than two hours total per day? | | | |
| 9b | Working with the wrist(s) bent to the side (toward the thumb or toward the small finger) by 30 degrees or more for more than two hours total per day? | | | |
| 9c | Working with the wrist bent toward the palm (in flexion) by 30 degrees or more for more than two hours total per day? | | | |
| 9d | Working with the wrist bent toward the back of the hand (in extension) by 45 degrees or more for more than two hours total per day? | | | |
| | Contact Stress | | | |
| 10 | Using the hand or knee as a hammer more than 10 times per hour for more than two hours total per day? | | | |
| | Vibration | | | |
| 11 | Using vibrating tools or equipment that typically have high vibration levels for more than 30 minutes per day? | | | |
| 12 | Using tools or equipment that typically have moderate vibration levels for more than two hours per day? | | | |

Appendix B - Computer Workstation Evaluation Form

Date of Assessment: _____

Employee Name: _____

Employee Location: _____

Performed By: _____

Supervisor: _____

Supervisor Follow-up Date: _____

EQUIPMENT

- | | |
|---|-------|
| 1. Chair height is adjusted so hips are even or slightly above knees. | Y / N |
| 2. Keyboard and monitor are located directly in front of you. | Y / N |
| 3. Keyboard height adjustment pegs are flat, not upright. | Y / N |
| 4. Keyboard is centered with body between the "G" and "H" keys. | Y / N |
| 5. Mouse is located adjacent to and same height as keyboard. | Y / N |
| 6. Monitor screen height is slightly below eye level (lower for Bifocal wearers). | Y / N |
| 7. Monitor is located about an arm length away from user. | Y / N |
| 8. Line-of-sight to monitor is parallel with outside windows. | Y / N |

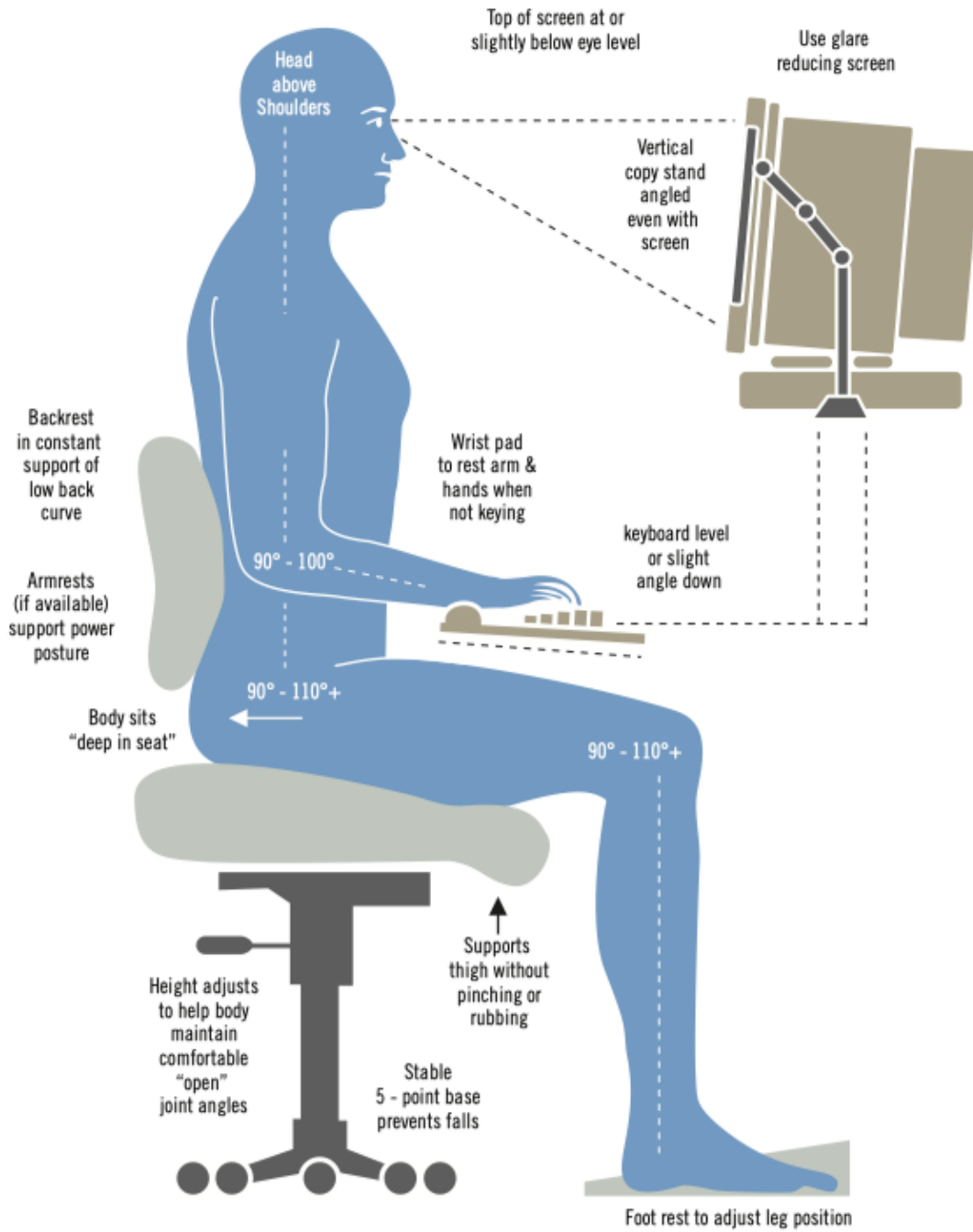
POSTURE

- | | |
|--|-------|
| 9. Lower back is supported. | Y / N |
| 10. Hips are bent at a 90 to 110 degree angle. | Y / N |
| 11. Shoulders are relaxed. | Y / N |
| 12. Arms form a 90 to 100 degree angle. | Y / N |
| 13. Elbows are adjacent to torso. | Y / N |
| 14. Wrists are straight or slightly bent downward. | Y / N |
| 15. Forearms or wrists do not rest on sharp work surface edge. | Y / N |
| 16. Feet rest flat on floor or footrest. | Y / N |
| 17. Neck is upright and not bent laterally or turned to side. | Y / N |

HELPFUL HINTS

- | | |
|--|-------|
| 18. Phone is never cradled between neck and shoulder. | Y / N |
| 19. Use a light touch on keyboard. | Y / N |
| 20. Use light grip on mouse with no wrist twisting. | Y / N |
| 21. Mini-breaks are taken least every hour of continuous computer use. | Y / N |
| 22. Posture is changed periodically. | Y / N |

Appendix C – Computer Workstation Layout



Appendix D: Industrial Ergonomics Test Questions

Name: _____

Date: _____

1. Ergonomics is the science of fitting the job to the person rather than the person to the job in order to create the most hazard-free and comfortable work environment.
 - a. True
 - b. False
2. Ergonomic risk factors include which of the following?
 - a. Forceful exertion
 - b. Repetition
 - c. Awkward posture
 - d. Contact stress
 - e. All of the above
3. Which of the following is not an example of an ergonomic risk factor?
 - a. Time of day work is performed
 - b. How often motion is repeated
 - c. Speed of movement
 - d. Number of muscles involved
4. Musculoskeletal disorders (MSDs) are defined as sprains, strains, inflammation, degeneration, tears, or other soft tissue injuries to the musculoskeletal system.
 - a. True
 - b. False
5. An MSD can be caused by:
 - a. vibration
 - b. hot or cold temperatures
 - c. amount and type of lighting
 - d. all of the above
6. Loss of muscle function can be a sign or symptom of an MSD?
 - a. True
 - b. False
7. MSD signs and symptoms should be reported immediately.
 - a. True
 - b. False
8. MSDs usually occur immediately from a single event.
 - a. True
 - b. False
9. If two or more ergonomic risk factors are present, it can create a synergistic effect and substantially increase the risk for an MSD.
 - a. True
 - b. False
10. Awkward postures include all but which of the following?
 - a. Reaching
 - b. Sitting
 - c. Twisting
 - d. Bending
11. Work practice/administrative controls are the most effective method to address ergonomic risk factors?
 - a. True
 - b. False

12. Engineering controls reduce employee exposure by removing, eliminating, or isolating the risk factor/hazard.
 - a. True
 - b. False

13. Which of the following is an effective control to reduce risk of ergonomic injuries?
 - a. Alternate tasks
 - b. Personal protective equipment
 - c. Organization of the workspace
 - d. all of the above

14. The distance from the monitor to the user should be about three feet away.
 - a. True
 - b. False

15. Repetitive lifting is not as hazardous as heavy lifting.
 - a. True
 - b. False

Appendix E: Industrial Ergonomics Test Answers

1. True
2. e
3. a
4. True
5. d
6. True
7. True
8. False. MSDs usually occur over time, rather than resulting from a single event.
9. True
10. b
11. False. Engineering controls are the most effective method to control ergonomic risk factors.
12. True
13. d
14. False. The distance from the monitor to the user should be about user's arm-length away.
15. False . Repetitive lifting can be as hazardous as heavy lifting because repetition and forceful exertion are both ergonomic risk factors.

OSHA 29 CFR 1910.147 - Control of Hazardous Energy

SCOPE AND APPLICATION

Many employee injuries happen around machinery of some type. Often, the accident involves electrical shock, burns or exposure to hazardous materials or unexpected moving machinery.

These accidents share one thing in common: the uncontrolled release of energy. Energy, like uncontrolled, is potentially very dangerous. Energy, simply defined, is the capacity for doing work. Kinetic (moving) energy is the force caused by the motion of an object, such as a spinning flywheel. Potential (stored) energy is the unseen force inside an object when not moving, such as a spring under tension. There are many sources of energy, which can provide power to machinery. These include:

- A. Gravity
- B. Electrical
- C. Mechanical
- D. Chemical
- E. Hydraulic
- F. Pneumatic
- G. Thermal
- H. Nuclear

This lockout/tagout program covers the servicing and maintenance of machines and equipment in which the unexpected energization or start up of the machines or equipment, or release of stored energy could cause injury to employees.

This program applies to the control of energy during servicing and/or maintenance of machines and equipment. Normal production operations are not covered by this program. Servicing and/or maintenance which takes place during normal production operations is covered by this standard only if:

- An employee is required to remove or bypass a guard or other safety device; or
- An employee is required to place any part of his or her body into an area on a machine or piece of equipment where work is actually performed upon the material being processed (point of operation); or
- The employee is required to place any part of his or her body into a danger zone associated with a machine operating cycle. This program does not apply to the following situations:

- While servicing or maintaining cord and plug connected electrical equipment provided that the equipment is unplugged from the energy source and the plug remains under the exclusive control of the employee performing the servicing and maintenance.
- During hot tap operations that involve the transmission and distribution systems for gas, steam, water, or petroleum products where they are performed on pressurized pipelines, provided that the continuity of service is essential, shutdown of the system is impractical, and employees are provided with alternative protection that is equally effective. Employees performing minor tool changes, adjustments, and/or other minor servicing activities that are routine, repetitive, and integral to the use of the production equipment are not covered by this program if the activity occurs during normal production operations. However, alternative measures that provide effective protection must be used. Our energy control program (sometimes referred to as our “lockout/tagout program”) comprises the following elements:
 - Assignment of Responsibilities
 - Energy Control Procedures
 - Requirements for Lockout/tagout Devices
 - Employee Training
 - Program Audit
 - Recordkeeping

ASSIGNMENT OF RESPONSIBILITIES

Management: Though management has the ultimate responsibility for the implementation, maintenance and the success of this energy control program, the responsibilities are generally delegated to a named and documented Program Administrator, supervisors, if any, and the affected employees themselves.

In addition, management will:

- Ensure that each machine and equipment that falls under the scope of this program is properly evaluated
- Provide the necessary lockout/tagout equipment
- Ensure proper employee safety training
- Establish and enforce safe operating rules and procedures The Program Administrator for our Lockout/Tag Out Program is: Daniel Stone

The Program Administrator is responsible for the development and administration of this program and has full authority to make necessary decisions to ensure its success and has the complete authority to halt any operations where there is a risk of employee injury associated with the uncontrolled release of energy. The Program Administrator will review and evaluate this lockout/tagout program on an annual basis, as changes occur to the OSHA standards that

mandate review, if there is an accident or close call related to lockout/tagout or any time the program contents do not appear adequate.

In addition, the Program Administrator will:

- Identify the machines and equipment that fall within the scope of the program
- Identify those employees authorized to perform lockout/ tagout procedures
- Oversee the documentation of procedures for locking/ tagging out the equipment
- Ensure employees receive the requisite safety training
- Ensure periodic inspections and recordkeeping are conducted

Supervisors must ensure that all equipment serviced that falls within the scope of a lockout/tagout program is locked/tagged out as required. In addition, the supervisor is responsible for informing affected employees that equipment is being serviced and that lockout/tagout procedures are being used.

Employees that are authorized to service equipment must comply with our lockout/tagout procedures. Authorized and affected employees will not attempt to energize equipment being serviced or attempt to remove locks and tags placed on equipment by other authorized employees. Authorized and affected employees will attend training sessions.

ENERGY CONTROL PROCEDURES

- The Program Administrator is responsible for the development and documentation of energy control procedures used to control potentially hazardous energy whenever workers perform activities covered by this program. The Program Administrator will use the Equipment Specific Procedures Form located in Appendix A or a similar document to document energy control procedures.
- These procedures will identify the information that the authorized employees must know to control hazardous energy sources during servicing or maintenance activities. If this procedure is the same for various machines or equipment then a single energy control procedure is sufficient. However, if there are multiple energy sources, different connecting means, or different sequential steps required to shut down the machine or equipment, then separate energy control procedures are required. The energy control procedures must include at least the following elements:
 - A statement of the intended use of the procedure
 - The procedural steps needed to shutdown, isolate, block, and secure machines or equipment
 - The steps designating the safe and effective placement, removal, and transfer of lockout/tagout devices and who has the responsibility for them

- The specific requirements for testing machines or equipment to determine and verify the effectiveness of locks, tags, and other energy control measures
- Provisions for notifying affected employees before lockout/ tagout devices are applied and after they are removed from the machine or equipment

The procedural steps for shutting down and securing machines or equipment must include the following steps:

- Preparing for and shutting down the machine or equipment.
- Applying the lockout/tagout devices to the energy-isolating device.
- Safely releasing all potentially hazardous, stored, or residual energy.
- Verifying the effective isolation of the machine or equipment prior to the start of servicing or maintenance activities. Before lockout or tagout devices are removed and energy is restored to the machines or equipment, take the following steps after servicing is complete:
- Ensure that machines or equipment components are operationally intact.
- Verify that all employees are safely positioned or removed from the equipment.
- Ensure that the lockout or tagout devices are removed from the energy-isolating device by the employee who applied the device.
- Ensure that all safety devices were placed back into service

ENERGY ISOLATING DEVICES

If an energy isolating device is not capable of taking a lockout device then a tagout device is required. If an energy isolating device is capable of being locked out, the energy control program must utilize lockout, unless the employer can demonstrate that the utilization of a tagout system will provide full employee protection.

Full Employee Protection

When a tagout device is used on an energy-isolating device that is not capable of lockout, attach the tagout device to the same location where the lockout device is normally attached. In this situation, our company, as an employer, must demonstrate that the tagout program will provide a level of safety equivalent to that obtained by using a lockout program. In demonstrating that an equivalent level of safety is achieved, full compliance with the tagout provisions of the OSHA standard is required along with additional means to ensure safety. Additional means to consider include the implementation of additional safety measures such as removal of an isolating circuit element, blocking of a control switch, opening of an extra disconnecting device, or removal of a valve handle to reduce the likelihood of inadvertent energization.

Whenever replacement or major repair, renovation or modification of a machine or equipment is performed, and whenever new machines or equipment are installed, we will ensure that the

energy isolating device design for such machine or equipment has the capacity to accept a lockout device.

REQUIREMENTS FOR LOCKOUT/ TAGOUT DEVICES

Our company will provide locks, tags, chains, wedges, key blocks, self-locking fasteners, or other hardware for isolating, securing, or blocking of machines or equipment from energy sources.

The Program Administrator will ensure that the devices are singularly identified, only used for lockout/tagout purposes, and meet the following requirements:

1. The devices are capable of withstanding the environment to which they are exposed.
2. Lockout and tagout devices are standardized in at least one of these criteria: color, shape, or size.
3. In the case of tagout devices, print and format is standardized.
4. The devices are assigned to authorized employees only.
5. Both lockout and tagout devices are substantial.
6. Lockout devices are not removable without the use of excessive force and tagout devices are substantial enough to prevent accidental or inadvertent removal.
7. Tagout devices are constructed and printed to remain legible when exposed to weather, wet/damp conditions, or corrosive elements. The tag attachment is a non-reusable type, attached by hand, self-locking, and non-releasable with a minimum unlocking strength of no less than 50 pounds (equivalent to a one piece, all environment-tolerant nylon cable tie).
8. Tagout devices must warn against hazardous conditions if the machine or equipment is energized and shall include a legend such as: Do Not Start, Do Not Open, Do Not Close, Do Not Energize, Do Not Operate.
9. Lockout devices and tagout devices must indicate the identity of the employee applying the device.

ADDITIONAL REQUIREMENTS

Testing or Positioning of Machines, Equipment, or Components

In situations in which lockout or tagout devices are temporarily removed from the energy isolating device and the machine or equipment energized to test or position the machine, equipment, or components, we will follow this sequence of actions:

- Clear the machine or equipment of tools and materials.
- Remove employees from the machine or equipment area.
- Remove the lockout/tagout devices as specified in the written procedures.

- Energize and proceed with the testing or positioning of the equipment.
- De-energize all systems and reapply energy control measures to continue the servicing and/or maintenance. Outside Contractors or Other Personnel

Whenever outside servicing personnel are engaged in activities covered by the scope and application of this program, our Program Administrator and the outside employer (or contractor) must inform each other of their respective lockout/tagout procedures. Our Program Administrator will ensure that our employees understand and comply with the restrictions and the prohibitions of the outside employer's energy control program.

Group Lockout or Tagout

When servicing and/or maintenance is performed by a crew, department, or other group, they must utilize a procedure which affords the employees a level of protection equivalent to that provided by the implementation of a personal lockout or tagout device. We will use group lockout or tagout devices as specified in the written procedures. When more than one crew or department is involved, it is the responsibility of one authorized employee to monitor the overall job-associated lockout or tagout control to ensure continuity of protection.

Each authorized employee will affix a personal lockout or tagout device to the group lockout device, group lockbox, or comparable mechanism when they start work. Each person must remove the devices when they stop working on the machine or equipment being serviced or maintained.

Shift or Personnel Changes

We will utilize specific procedures during shift or personnel changes to ensure the continuity of lockout or tagout protection.

EMPLOYEE TRAINING

- Employers must provide training and ensure that the purpose and function of the energy control program are understood by the employees and that the employees have the knowledge and skills required for the safe application, use, and removal of the energy controls. The training must include the following:
 - Each authorized employees will receive training in the recognition of applicable hazardous energy sources, the type and magnitude of the energy available in the workplace, and the methods and means for energy isolation and control.
 - The Program Administrator is responsible for ensuring that instruction is given to each affected employee in the purpose and use of the energy control procedure.
 - The Program Administrator is responsible for ensuring that instruction on lockout/tagout procedure is given to all other employees whose work operations are in an area where energy control procedures are utilized. The instruction will include the prohibition relating to attempts to restart or reenergize machines or equipment that are locked out or tagged out.

When tagout systems are used, the Program Administrator will ensure that employees are trained in the following limitations of tags:

- Tags are essentially warning devices affixed to energy isolating devices and do not offer the physical restraint on those devices that is provided by a lock.
- When a tag is attached to an energy isolating device, do not remove the tag without the authorization of the person responsible for it, and never bypass, ignore, or otherwise defeat the isolating device.
- It is necessary to insure that tags are legible and understandable by all authorized employees, affected employees, and all other employees whose work operations are in the area.
- Ensure that tags and their means of attachment are made of materials that will withstand the environmental conditions encountered in the workplace.
- Tags may evoke a false sense of security. It is necessary to ensure their meaning is understood within the scope of the overall energy control program.
- It is required that tags are securely attached to energy isolating devices so that they cannot inadvertently or accidentally detach during use. Retraining is provided for all authorized and affected employees whenever there is a change in their job assignments, a change in machines, equipment, or processes that present a new hazard, or when there is a change in the energy control procedures. Additional retraining is also conducted whenever a periodic inspection reveals deviations from the energy control procedures, or whenever a supervisor or the Program Administrator has reason to believe that there are inadequacies in the employee's knowledge or application of the energy control procedures. The retraining will reestablish employee proficiency and introduce new or revised control methods and procedures. The employer must certify that training was given and is kept up to date. The training certification must include the name of the employee and the dates of the training.

PROGRAM AUDIT

The Program Administrator or a designated employee will conduct documented periodic inspections of the energy control procedures to ensure that the procedures and requirements of this program are being followed. An authorized employee other than the one(s) using the energy control procedure must perform the inspection.

The Program Administrator or a designated employee performing the periodic inspection does not have to observe every authorized employee implementing the energy control procedure on the machine or equipment on which he or she is authorized to perform servicing and maintenance.

The Program Administrator or designated employee participating in the review needs to:

1. Observe a representative number of authorized employees while they are implementing the procedure, and

2. Talk with all other authorized employees even though they may not be implementing the energy control procedure.

This review may be completed in one or more meetings in which all authorized employees (as well as affected employees) are in attendance to review the specific energy control procedures.

When lockout is used for energy control, the periodic inspection will include a review between the inspector and each authorized employee, of that employee's responsibilities under the energy control procedure being inspected. When a tagout procedure is being inspected, a review on the limitations of tags, in addition to the above requirements, must also be included with each affected and authorized employee.

Document and certify the inspection, using the Certificate of Inspection.

Periodic Inspection of Energy Control Procedures Form, located in Appendix B. The certification will identify the machine or equipment on which the energy control procedure was utilized, the date of the inspection, the employees included in the inspection, and the person performing the inspection. The Program Administrator will maintain on file the inspection certification documents.

RECORDKEEPING

The Program Administrator will maintain all lockout/ tagout records.

These records must include:

- Specific written lockout/tagout procedures for each piece of equipment/machine covered by the program.
- Certification of employee training. The certification will contain, as a minimum, each employee's name and dates of training and a training summary.
- Completed Periodic Inspection of Energy Control Procedures Forms.
- Any completed Exchange of Lockout/Tagout Procedures Forms.

Appendix A – Equipment Specific Procedures

**EQUIPMENT SPECIFIC PROCEDURES:
LOCKOUT/TAGOUT/CONTROL OF HAZARDOUS ENERGY SOURCES**

Date: _____ Location: _____

Machine Identification: _____ Manufacturer/Model Number: _____

Employees Authorized to Perform Lockout/Tagout Procedures: _____

Energy Sources

The energy sources present on this equipment are: (electrical, steam, hydraulic, pneumatic, natural gas, stored energy, etc.)

| ENERGY SOURCE | LOCATION | LOCKABLE | | TYPE LOCK OR BLOCK NEEDED |
|---------------|----------|--------------------------|--------------------------|------------------------------|
| | | YES | NO | |
| | | <input type="checkbox"/> | <input type="checkbox"/> | |
| | | <input type="checkbox"/> | <input type="checkbox"/> | |
| | | <input type="checkbox"/> | <input type="checkbox"/> | |
| | | <input type="checkbox"/> | <input type="checkbox"/> | |
| | | <input type="checkbox"/> | <input type="checkbox"/> | |
| | | <input type="checkbox"/> | <input type="checkbox"/> | |

Shutdown Procedures

List the steps in order necessary to shut down and de-energize the equipment. Be specific. For stored energy, be specific about how the energy is dissipated or restrained.

Procedure: _____

Lock Type & Location: _____

De-energized State To Be Verified? How? _____

NOTIFY ALL AFFECTED EMPLOYEES

Shutdown Procedures

List the steps in order necessary to reactivate (energize) the equipment. Be specific.

Procedure: _____

Energy Source Activated: _____

NOTIFY ALL AFFECTED EMPLOYEES

Appendix B – Certificate of Inspection

Name of Inspector: _____ Date of Inspection: _____

Equipment and/or machinery being inspected: _____

Authorized Employee(s) Involved: _____

Other Employees Affected: _____

Review the current lockout/tagout procedures and indicate whether procedures are satisfactory. Explain any procedures marked "No" under comments/deficiencies:

- | | Satisfactory? | |
|--|------------------------------|-----------------------------|
| 1. Control Methods | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| 2. General Review of Responsibilities and Procedures | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| 3. Energy Identification | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| 4. Lockout Device | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| 5. Tagout Device | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| 6. Energy Release Methods | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| 7. Lockout Steps | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| 8. Energy Restore Steps | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| 9. The inspection revealed the following problems and/or deviations between the energy control program and the employee's performance: | | |

The following steps are recommended to correct problems identified above:

Certification: This energy control procedure is adequate (or modified as noted above).

Inspector's Signature: _____ Date: _____

Authorized Employee's Signature: _____ Date: _____

Appendix C – Certificate of Training

CERTIFICATE OF TRAINING: ENERGY CONTROL PROGRAM OSHA § 1910.147

Employee Name: _____
Print Name Signature

Date of Training: _____

Employer/Location: _____

Instructor: _____

Reason for Training:

- ☐ Initial training
- ☐ Retraining due to change in job assignment
- ☐ Retraining due to change in machinery
- ☐ Retraining due to change in energy control procedure
- ☐ Retraining due to periodic inspection
- ☐ Other _____

Training Received:

- ☐ Contents of the Energy Control Program reviewed
- ☐ Contents of energy control procedures for the following machines/equipment reviewed:
 - ☐ Authorized employees were trained to recognize the applicable hazardous energy sources, the type and magnitude of energy available, and the methods and means for energy isolation and control. Employees were instructed to the limitations of tags.
 - ☐ Employees were instructed how to recognize when lockout/tagout procedures are in effect and the purpose of, and applicable hazards pertaining to the energy control procedures.

I certify that the above training was completed.

Name of Instructor: _____ Date: _____

Appendix D – Exchange of Lockout/Tagout Procedures

LOCKOUT/TAGOUT PROGRAM:

EXCHANGE OF LOCKOUT/TAGOUT PROCEDURES

Our lockout/tagout program requires that our departments exchange energy control procedures with outside employers who service and/or maintain our company equipment/machines that require the implementation of lockout/tagout procedures and that our employees understand and comply with the restrictions and prohibitions of outside employers' energy control programs. The department contact person thus must complete this form in conjunction with

the outside employer's representative. The exchange of information must occur before service/maintenance activities begin. If one of our employees is also working on this equipment or in surrounding areas, attach this to the Energy Control Procedures form.

Identification of Outside Employer:

Name: _____

Address: _____

Project Name/Equipment: _____

Check here to indicate that energy control procedures for the equipment/machine were exchanged.

Comments: _____

Affected Personnel (listed below) shall understand and comply with these differences:

Print Name

Signature

| | |
|-------|-------|
| _____ | _____ |
| _____ | _____ |
| _____ | _____ |
| _____ | _____ |

Acknowledged acceptance of the provisions of this form:

Outside Employer Representative Signature: _____ **Date:** _____

Company Contact Signature: _____ **Date:** _____

Appendix E – Glossary of Terms

Glossary of Terms: Control of Hazardous Energy Sources (Lockout/Tagout)

Affected Employee – An employee who performs job duties in an area in which the energy control procedure is implemented and servicing or maintenance operations are performed. An affected employee does not perform servicing or maintenance on machines or equipment and is not responsible for implementing the energy control procedures.

Authorized Employee – An employee who performs servicing or maintenance on machines and equipment. Lockout or tagout is used by these employees for their self-protection.

Capable of Being Locked Out – An energy isolating device is considered capable of being locked out if it meets one of the following requirements:

- Is designed with a hasp which allows a padlock or other suitable locking device.

- Is designed so any other integral part allows a locking mechanism.
- Has a built in locking mechanism.
- Locking out is accomplished without dismantling, rebuilding, or replacing the energy isolating device or permanently altering its energy control capability.

Energized – Machines and equipment are energized when they are connected to an energy source or when they contain residual or stored energy.

Energy Isolating Device – Any mechanical device that physically prevents the transmission or release of energy. These include, but are not limited to, manually operated electrical circuit breakers, disconnect switches, line valves, and blocks.

Energy Source – Any source of electrical, mechanical, hydraulic, pneumatic, chemical, thermal, or other energy.

Energy Control Procedure – A written document that contains those items of information an authorized employee needs to know in order to safely control hazardous energy during servicing or maintenance of machines and equipment.

Energy Control Program – A program intended to prevent the unexpected energization or the release of stored energy in machines or equipment. The program consists of energy control procedures, an employee training program, and periodic inspections.

Hot Tap – A procedure used in the repair, maintenance and services activities that involves welding on a piece of equipment (pipelines, vessels, or tanks) under pressure, in order to install connections or appurtenances. It is commonly used to replace or add sections of pipeline without the interruption of service for air, gas, water, steam, and petrochemical distribution systems.

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 equipment controlled is not operable until the lockout device is removed.

Lockout Device – Any device that uses positive means such as a lock (key or combination type) to hold an energy-isolating device in a safe position, thereby preventing the energization of machinery or equipment. When properly installed a blank flange or bolted slip blind are considered equivalent to lockout devices.

Normal Production Operations – The utilization of a machine or equipment to perform its intended purpose. Other Employees – An employee who may perform job duties in an area in which the energy control procedure is implemented and servicing or maintenance operations is performed. These employees do not perform servicing or maintenance on machines or equipment and are not responsible for implementing the energy control procedures.

Servicing and/or Maintenance – Workplace activities such as constructing, installing, setting up, adjusting, inspecting, modifying, and maintaining and /or servicing machine or equipment. These activities include lubrication, cleaning or unjamming of machine or equipment and

making adjustments or tools changes, where the employee is exposed to the unexpected energization or startup of the equipment or release of hazardous energy.

Setting Up – Any work performed to prepare a machine or equipment to perform its normal production operation.

Tagout – The placement of a tagout device on an energy-isolating device to indicate that the energy-isolating device and the equipment controlled is not operable until the tagout device is removed.

Tagout Device – Any prominent warning device, such as a tag and a means of attachment, secured to an energy-isolating device. The tag indicates that the machine or equipment to which it is attached is not to be operated until the tagout device is removed in accordance with the energy control procedure.

OSHA 29 CFR 1910.132 - Personal Protective Equipment

SCOPE AND APPLICATION

Hazards exist in every workplace in many different forms: sharp edges, falling objects, flying sparks, chemicals, noise and a myriad of other potentially dangerous situations.

Controlling a hazard at its source is the best way to protect our employees. It is our policy to use to the greatest possible extent and depending on the hazard or workplace conditions, engineering or work practice controls to manage or eliminate hazards.

When engineering, work practice and administrative controls are not feasible or do not provide sufficient protection, we will provide employees with personal protective equipment (PPE). Personal protective equipment, commonly referred to as “PPE”, is equipment worn to minimize exposure to a variety of hazards. Examples of PPE include such items as gloves, foot and eye protection, protective hearing devices (earplugs, muffs), hard hats, respirators and full body suits.

This program addresses eye, face, head, foot, and hand protection.

Our PPE program comprises the following elements:

- Assignment of Responsibilities
- Hazard Assessment
- Personal Protective Equipment Selections
- Training
- Cleaning and Maintenance.
- Program Review and Evaluation
- Recordkeeping

These are described in detail to the right.

ASSIGNMENT OF RESPONSIBILITIES

Management: Though management has the ultimate responsibility for the implementation, maintenance and the success of this PPE program, the responsibilities were delegated to a named and documented Program Administrator, supervisors and the affected employees themselves.

In addition, management will:

- Ensure that workplace hazard assessments are completed as required
- Provide the appropriate PPE at no cost to employees
- Ensure proper employee safety training

- Establish and enforce safe operating rules and procedures

The Program Administrator for our Personal Protective Equipment Program is: Daniel Stone

The Program Administrator is responsible for the administration of this program and has full authority to make necessary decisions to ensure its success. The Program Administrator has complete authorization to halt any operation where there is a risk of personal injury associated with the lack of or misuse of required PPE.

In addition, the Program Administrator is responsible for:

- Training a designated associate to conduct workplace hazard assessments.
- Assisting with the hazard assessment surveys by serving as a technical resource.
- Providing guidance on the selection, care, cleaning and use of approved PPE.
- Maintaining centralized records of hazard assessments, training, and inspections.
- Developing and maintaining the PPE train-the-trainer manual, videos, and other training resources.
- Evaluating the overall effectiveness of the PPE program on a periodic basis, and revising the program as needed to assure the safety employees. Supervisors are responsible for assisting with the completion of the hazard assessments, for monitoring the use of personal protective equipment in their area or department and ensuring that employees performing job duties that require the use of PPE are using the PPE as indicated in the hazard assessments.

Employees performing job duties that require the use of PPE are required to wear the appropriate PPE, clean and maintain PPE, inspect PPE prior to use, and inform their supervisor of the need to replace worn or defective PPE.

HAZARD ASSESSMENT

The first step of developing and implementing a PPE program is to identify physical and health hazards in the workplace. This process is known as a “hazard assessment.” Potential hazards are physical or health-related and a comprehensive hazard assessment should identify hazards in both categories. Examples of physical hazards include moving objects, fluctuating temperatures, high intensity lighting, rolling or pinching objects, electrical connections and sharp edges. Examples of health hazards include overexposure to harmful dusts, chemicals or radiation.

The hazard assessment begins with a walk-through survey of the facility to develop a list of potential hazards in the following basic hazard categories:

- Impact
- Penetration
- Compression (roll-over)
- Chemical

- Heat/cold
- Harmful dust
- Light (optical) radiation
- Biologic

In addition to noting the basic layout of the facility and reviewing any history of occupational illnesses or injuries, things to look for during the walk-through survey include:

- Sources of electricity
- Sources of motion such as machines or processes where movement may exist that could result in an impact between personnel and equipment
- Sources of high temperatures that could result in burns, eye injuries or fire
- Types of chemicals used in the workplace
- Sources of harmful dusts
- Sources of light radiation, such as welding, brazing, cutting, furnaces, heat treating, high intensity lights, etc.
- The potential for falling or dropping objects
- Sharp objects that could poke, cut, stab or puncture
- Biologic hazards such as blood or other potentially infectious material

We will use the Hazard Assessment form, located in Appendix A as a guide and to document the results of our hazard assessment. The documentation must include the date of the assessment, area, department, or job being evaluated, and the name of the person conducting and certifying the evaluation. We must complete a new hazard assessment to identify and control the hazards whenever conditions change in the workplace that changes the hazards.

PERSONAL PROTECTIVE EQUIPMENT SELECTION

Once the evaluation is completed, proper PPE to suit the hazards is selected. (A guideline for PPE selections is in Appendix B.) Important considerations in the selection of PPE include the following:

- It is essential that all PPE is of safe design and construction for the work performed and is maintained in a sanitary and reliable condition.
- The fit and comfort of PPE is a very important consideration when selecting appropriate items for the workplace.
- PPE that fits well and is comfortable to wear will encourage employee use of PPE.

- Most protective devices are available in multiple sizes and care is needed to select the proper size for each employee. Examples of required PPE include:
- EYE AND FACE PROTECTION – Employees must use appropriate eye or face protection when exposed to hazards from flying particles, molten metal, liquid chemicals, acids or caustic liquids, chemical gases or vapors, or potentially damaging light radiation.
- HEAD PROTECTION – Employees must wear protective helmets when working in areas where there is a potential for injury from falling objects. Employees exposed to electrical conductors that could come into contact with their heads must wear protective helmets designed to reduce electrical shock hazard.
- FOOT PROTECTION – Employees must wear protective footwear when working in areas where there is a danger from falling or rolling objects, or from objects that may pierce the sole, and when feet are exposed to electrical hazards.
- HAND PROTECTION – Employees are required to use appropriate hand protection when hazards are encountered that could result in the absorption of harmful substances through the skin, severe cuts or lacerations, severe abrasion, punctures, chemical burns, thermal burns, or injuries caused by temperature extremes. OSHA requires that many categories of PPE meet or are equivalent to National Consensus Standards. These are:
 - Eye and Face Protection:
 - ANSI Z87.1-2003;
 - ANSI Z87.1-1989 (R-1998);
 - ANSI Z87.1-1989
 - Head Protection:
 - ANSI Z89.1-2003
 - ANSI Z89.1-1997
 - ANSI Z89.1-1986
 - Foot Protection:
 - ASTM F-2412-2005, “Standard Test Methods for Foot Protection,” and ASTM F-2413-2005, “Standard Specification for Performance Requirements for Protective Footwear,”
 - ANSI Z41-1999
 - ANSI Z41-1991

For hand protection, there is no ANSI standard for gloves but OSHA recommends that selection be based upon the tasks performed and the performance and construction characteristics of

the glove material. For protection against chemicals, glove selection is based on the chemicals encountered, the chemical resistance and the physical properties of the glove material.

TRAINING

Train employees to know when PPE is necessary, what type of PPE is necessary, how it is worn and adjusted, what the limitations of the PPE are, as well as its proper care, maintenance, useful life and disposal. The training includes an opportunity for employees to handle the PPE and demonstrate that they understand the training and have the ability to use the PPE properly. This training is documented using the PPE Training Form provided in Appendix C.

The Program Administrator is required to certify in writing that training was carried out and that employees understand it. The Program Administrator will ensure that each certification contains the name of the employee trained, the date(s) of training, and identify the subject certified.

Other situations that require additional training or retraining of employees include the following circumstances:

- When the employer has reason to believe that an employee who was trained does not have the understanding and skill required
- Changes in the workplace that render previous training obsolete.
- Changes in the types of PPE used render previous training obsolete.
- Inadequacies in the employee's knowledge or use of assigned PPE indicate that the employee did not retain the necessary understanding or skill.

CLEANING AND MAINTENANCE

It is important that all PPE is kept clean and properly maintained. Cleaning is particularly important for eye and face protection where dirty or fogged lenses could impair vision.

It is required that PPE is inspected, cleaned, and maintained at regular intervals so that the PPE provides the requisite protection. It is essential that PPE that is shared between two employees is not used until it is properly cleaned and sanitized. Whenever possible, we will provide PPE for individual use.

Reuse of contaminated PPE is prohibited if the PPE is not decontaminated in a manner that protects employees from exposure to hazards.

PROGRAM REVIEW AND EVALUATION

The Program Administrator is required to review the effectiveness of this program periodically, but at least annually. The review should include the following:

- A survey of each department/site to ensure compliance
- Adequacy of equipment selection
- Adequacy of decontamination, cleaning, inspection, maintenance and storage programs

- Adequacy of program records of equipment selection
- Recommendations for program improvement and modification

RECORDKEEPING

The Program Administrator will maintain records of all hazard assessments. The Program Administrator will ensure that training records are kept in the employees files during the duration of the employment.

Appendix A - Hazard Assessment Form

Company: _____ Job Description: _____

Date: 1/10/2018 Assessor: _____

Based on the hazard assessment for this job description, the following personal protective equipment (PPE) is required:

| | | |
|--|------------------------------|--|
| Eye/Face Protection Required | <input type="checkbox"/> Yes | <input type="checkbox"/> No Eye/Face Protection Required |
| Jobs/Tasks Requiring Eye/Face Protection | Type of PPE Required | |
| | | |

| | | |
|--------------------------------------|------------------------------|--|
| Hand Protection Required | <input type="checkbox"/> Yes | <input type="checkbox"/> No Hand Protection Required |
| Jobs/Tasks Requiring Hand Protection | Type of PPE Required | |
| | | |

| | | |
|--------------------------------------|------------------------------|--|
| Foot Protection Required | <input type="checkbox"/> Yes | <input type="checkbox"/> No Foot Protection Required |
| Jobs/Tasks Requiring Foot Protection | Type of PPE Required | |
| | | |

| | | |
|--------------------------------------|------------------------------|--|
| Head Protection Required | <input type="checkbox"/> Yes | <input type="checkbox"/> No Head Protection Required |
| Jobs/Tasks Requiring Head Protection | Type of PPE Required | |
| | | |

I certify that the above inspection was performed to the best of my knowledge and ability based on the hazards present on this date.

Signature: _____ Date: _____

Appendix B - PPE Selection Guides

PROGRAM REVIEW AND EVALUATION

- **Safety Glasses** – Protective eyeglasses are made with safety frames, tempered glass or plastic lenses, temples, and side shields which provide eye protection from moderate impact particles encountered in job tasks such as carpentry, woodworking, grinding, etc. Safety glasses are also available in prescription form for those employees needing corrective lenses.
- **Single Lens Goggles** – Vinyl framed goggles of soft pliable body design provides adequate eye protection from many hazards. These goggles are available with clear or tinted lenses, perforated, port vented, or non-vented frames. Single lens goggles provide similar protection to spectacles and may be worn in combination with spectacles or corrective lenses to ensure protection along with proper vision.
- **Welders/Chippers Goggles** – These goggles are available in rigid and soft frames to accommodate single or two eyepiece lenses. Welders goggles provide protection from sparking or splashing and harmful rays. Lenses are impact resistant and are available in graduated shades of filtration. Chippers/Grinders goggles provide eye protection from flying particles. The dual protective eyecups house impact resistant clear lenses with individual cover plates.
- **Face Shields** – These normally consist of an adjustable headgear and face shield of tinted/transparent acetate or polycarbonate materials. Face shields are available in various sizes, tensile strength, impact/heat resistance, and light ray filtering capacity. Face shields will be used in operations where the entire face needs protection and should be worn to protect eyes and face against flying particles, metal sparks, and chemical/biological splash. Face Shields should be worn in combination with safety glasses or goggles.

Eye and Face Protection Selection Chart

| SOURCE | ASSESSMENT OF HAZARD | PROTECTION |
|--|---|--|
| IMPACT - Chipping, grinding machining, masonry work, woodworking, sawing, drilling, chiseling, powered fastening, riveting, and sanding | Flying fragments, objects large chips, sand, dirt, etc. | Spectacles with side protection, goggles, face shields. For severe exposure, use face shield over primary eye protection. |
| CHEMICALS - Acid and chemicals handling. | Splash, fumes, vapors, and irritating mists. | Goggles, eyecup, cover types, and special purpose goggles. For severe exposure, use face shield over primary eye protection. Special purpose goggles |
| DUST - Woodworking, buffing, and general dusty conditions. | Nuisance dust | Goggles, eyecup and cover types. |
| OPTICAL RADIATION - Welding, torch-cutting, brazing, soldering, and laser work. | Radiant energy, glare, and intense light | Welding helmets or welding shields. |
| HEAT - Furnace operations, pouring, casting, hot dipping, and welding. | Anything emitting extreme heat. | Spectacles, goggles and face shields |

Notes to Eye and Face Protection Selection Chart:

- Care should be taken to recognize the possibility of multiple and simultaneous exposure to a variety of hazards. Adequate protection against the highest level of each of the hazards should be provided. Protective devices do not provide unlimited protection.
- Operations involving heat may also involve light radiation. As required by the standard, protection from both hazards must be provided.
- Face shields should only be worn over primary eye protection (spectacles or goggles).
- As required by the standard, filter lenses must meet the requirements for shade designations in 1910.133(a)(5). Tinted and shaded lenses are not filter lenses unless they are marked or identified as such.
- As required by the standard, persons whose vision requires the use of prescription (Rx) lenses must wear either protective devices fitted with prescription (Rx) lenses or protective devices designed to be worn over regular prescription eyewear.
- Wearers of contact lenses must also wear appropriate eye and face protection devices in a hazardous environment. It should be recognized that dusty and/or chemical environments may represent an additional hazard to contact lens wearers.
- Caution should be exercised in the use of metal frame protective devices in electrical hazard areas.
- Atmospheric conditions and the restricted ventilation of the protector can cause lenses to fog. Frequent cleansing may be necessary.
- Welding helmets or face shields should be used only over primary eye protection (spectacles or goggles).
- Non side shield spectacles are available for frontal protection only, but are not acceptable eye protection for the sources and operations listed for "impact."
- Ventilation should be adequate, but well protected from splash entry. Eye and face protection should be designed and used so that it provides both adequate ventilation and protects the wearer from splash entry.
- Protection from light radiation is directly related to filter lens density. Select the darkest shade that allows task performance.

HAND PROTECTION

The following is a guide to the most common types of protective work gloves and the types of hazards they can guard against:

- **Disposable Gloves** – Disposable gloves, usually made of lightweight plastic, can help guard against mild irritants.
- **Fabric Gloves** – Made of cotton or fabric blends are generally used to improve grip when handling slippery objects. They can also help insulate hands against mild heat or cold.
- **Leather Gloves** – These gloves are used to guard against injuries from sparks or scraping against rough surfaces. They are also used in combination with an insulated liner when working with electricity.
- **Chemical Resistant Gloves** – These gloves may be made of rubber, neoprene, polyvinyl alcohol, or vinyl, etc. The gloves protect hands from corrosives, oils, and solvents. When selecting chemical resistance gloves, be sure to consult the manufacturers' recommendations, especially if the gloved hand will be immersed in the chemical.
- **Metal mesh Gloves** – These gloves are used to protect hands from accidental cuts and scratches. They are used most commonly by persons working with cutting tools or other sharp instruments.

FOOT PROTECTION

There are many different types and styles of protective footwear and it is important to realize that a particular job may require additional protection other than that listed here. Footwear that meets established safety standards will have an American National Standards Institute (ANSI) label inside each shoe.

- **Steel Reinforced Safety Shoes** – These shoes are designed to protect feet from common machinery hazards such as falling or rolling objects, cuts, and punctures. Steel, aluminum, or plastic materials protect the entire toe box and insole. Safety shoes are also designed to insulate against temperature extremes and may be equipped with special soles to guard against slip, chemicals, and/or electrical hazards.
- **Safety Boots** – Safety boots offer more protection when splash or spark hazards are present.

HEAD PROTECTION

Protective hats are made in the following types and classes.

- **Type 1** – Helmets with a full brim.
- **Type 2** – Brimless helmets with a peak extending forward from the crown.
- **Class A** – General service/limited voltage. Intended for protection against impact hazards. Used in mining, construction, and manufacturing.
- **Class B** – Utility service/high voltage. Used by electrical workers.
- **Class C** – Special service/no voltage protection. Used in certain construction, manufacturing, refineries, and where there is a possibility of bumping the head against a fixed object. These should not be used around electrical hazards.

Appendix C - PPE Training Certification

EMPLOYEE PERSONAL PROTECTIVE EQUIPMENT: TRAINING AND EVALUATION

Employee: _____ Date: _____

Hazard(s):

PPE Selected:

| PPE | Manufacturer/Model | Size | Comment |
|-----|--------------------|------|---------|
| 1. | | | |
| 2. | | | |
| 3. | | | |

Training Conducted by: _____

| PPE | Proper Fit | Care and Maintenance | Don & Doff | Limits | Disposal | Life |
|-----|------------|----------------------|------------|--------|----------|------|
| 1. | | | | | | |
| 2. | | | | | | |
| 3. | | | | | | |

I have received training for and understand The necessity of properly using and caring For the personal protective equipment noted above.

Employee

Date

I hereby certify that I have provided training as required by OSHA Standard 1910.132to the above-indicated employee.

Employee

Date

OSHA 29 CFR 1910.134 - Respiratory Protection

SCOPE AND APPLICATION

The purpose of this respiratory protection program is to provide the safest working environment for our employees. In the control of occupational diseases caused by breathing air contaminants, the primary objective is to prevent atmospheric contamination by engineering control measures. When effective engineering controls are not feasible, or while they are being instituted, our employees will use appropriate respiratory protection.

Our respirator protection program contains the following elements:

- Assignment of Responsibilities
- Workplace Hazard Analysis
- Respirator Selection
- Medical Surveillance
- Fit Testing
- Respirator Use
- Cleaning and Maintenance
- Cartridge Change Schedule
- Defective Respirators
- Voluntary Respirator Use
- Emergency Respirator Use
- Respirators for IDLH Atmospheres
- Training
- Program Evaluation
- Recordkeeping

ASSIGNMENT OF RESPONSIBILITIES

Management: Though management has the ultimate responsibility for the implementation, maintenance and the success of this respiratory protection program, the responsibilities are delegated to a named and documented Program Administrator, supervisors, and the respirator users themselves Management will:

- Assign a program administrator, who is qualified by training to serve in that role
- Ensure each suspected airborne hazard is properly evaluated
- Provide the necessary respiratory equipment

- Ensure adherence to medical clearance procedures
- Ensure proper employee safety training
- Establish and enforce safe operating rules and procedures

The Program Administrator for our Respiratory Protection Program is: Daniel Stone

Supervisors are responsible for ensuring that the respiratory protection program is implemented in their work areas.

The Program Administrator is responsible for the administration of this program and has full authority to make necessary decisions to ensure its success.

In addition, the Program Administrator is responsible for:

- Identifying work areas, processes or tasks that require workers to wear respirators, and evaluating hazards
- Selection of respiratory protection options
- Monitoring respirator use to ensure that respirators are used in accordance with their certifications
- Arranging for and/or conducting training
- Arranging for and/or conducting quantitative/qualitative fit testing
- Ensuring proper storage and maintenance of respiratory protection equipment
- Administering the medical surveillance program
- Maintaining records required by the program
- Annually evaluating the program
- Updating the written program, as needed

In addition to being knowledgeable about the program requirements for their own protection, supervisors will also ensure that the program is understood and followed by the employees under their charge. Supervisors will complete the Respirator Request Form, see Appendix A, for each employee who is assigned a respirator.

Additional duties of the supervisor include:

- Identify employees who may require a respirator and submit a Respirator Request Form
- Ensure that employees under their supervision (including new hires) have received appropriate training, fit testing, and annual medical evaluation
- Ensure the availability of appropriate respirators and accessories
- Be aware of tasks requiring the use of respiratory protection

- Enforce the proper use of respiratory protection
- Ensure that respirators are properly cleaned, maintained, and stored according to the respiratory protection program
- Develop a respirator cartridge change-out schedule with assistance from the Program Administrator. Provide user training on the change-out schedule
- Ensure that respirators fit well and do not cause discomfort
- Continually monitor work areas and operations to identify respiratory hazards
- Coordinate with the Program Administrator on how to address respiratory hazards or other concerns regarding the program

Employees have the responsibility to wear their respirators when and where required and in the manner in which they were trained.

Employees will also:

- Obtain written medical clearance specifically for respirator use prior to initial use, upon a significant change in job task or employee medical condition, or as specified in writing by physician
- Only use the brand and type of respirator for which the user was trained and fit tested
- Conduct either the positive or negative pressure check (depending on which test works best for them) specified in Appendix B-1 of the Respiratory Protection Standard.
- Ensure that their assigned respirator is properly cleaned, maintained, and stored according to the respiratory protection plan and store them in a clean and sanitary location
- Attend respirator training prior to use, annually, and as otherwise deemed necessary by the Program Administrator
- Maintain a facial surface that provides a proper fit with the respirator (e.g., clean-shaven for tight-fitting facepieces)
- Undergo fit-test for each assigned tight-fitting facepiece prior to use whenever a different tight-fitting facepiece is used, and at least annually
- Maintain each assigned respirator in a ready-to-use condition at all times
- Inspect each assigned respirator prior to and after each use, and at least monthly.
- Store written inspection records with the respirator. Inspection requirements are not applicable for single-use respirators
- Wear assigned respirator during activities that have potential for exposure over regulatory limits

- Leave the exposure area in the event of respiratory equipment malfunction, physical or psychological distress, or other unsafe conditions that require relief
- Immediately notify a supervisor of any new or changed workplace hazards, or any significant change in medical condition
- Never perform a job or be present at any location that requires respirator use unless all provisions of this respiratory protection program are observed.
- Immediately notify the Program Administrator of any problem or question about an assigned respirator or its use

WORKPLACE HAZARD ANALYSIS

We will conduct a hazard evaluation for each operation, process, or work area where there is a potential presence of airborne contaminants while conducting routine operations or during an emergency.

The hazard evaluation will include:

- 1) Identification and development of a list of hazardous substances used in the workplace, by department, or work process.
- 2) Review of work processes to determine where potential exposures to hazardous substances may occur. Conduct the review by surveying the workplace, processes, reviewing records, and talking with employees and supervisors.
- 3) Conduct exposure monitoring, which is usually conducted by a third party, to quantify potential hazardous exposures. Post the monitoring results.
- 4) If air monitoring indicates the need for employee use of respirators, the results of the monitoring will be included in our written respiratory protection program.

RESPIRATOR SELECTION

- All respirators and cartridges are NIOSH certified.
- Industrial hygiene surveys are conducted to determine respiratory protection requirements.
- Cartridges are selected according to the hazards identified in the workplace. A list of approved cartridges and change schedules is provided in Appendix E.

ASSIGNED PROTECTION FACTORS⁵

| Type of Respirator ^{1, 2} | Quarter Mask | Half Mask | Full Facepiece | Helmet/Hood | Loose-fitting Facepiece |
|---|--------------|-----------------|----------------|-----------------------|-------------------------|
| 1. Air-Purifying Respirator | 5 | ³ 10 | 50 | ..... | ..... |
| 2. Powered Air-Purifying Respirator (PAPR) | ..... | 50 | 1,000 | ⁴ 25/1,000 | 25 |
| 3. Supplied Air-Respirator (SAR) or Airline Respirator | | | | | |
| • Demand mode | ..... | 10 | 50 | ..... | ..... |
| • Continuous flow mode | ..... | 50 | 1,000 | ⁴ 25/1,000 | 25 |
| • Pressure-demand or other positive-pressure mode | ..... | 50 | 1,000 | ..... | ..... |
| 3. Self-Contained Breathing Apparatus (SCBA) | | | | | |
| • Demand mode | ..... | 10 | 50 | 50 | ..... |
| • Pressure-demand or other positive-pressure mode (e.g., open/closed circuit) | ..... | ..... | 10,000 | 10,000 | ..... |

Notes to Eye and Face Protection Selection Chart:

¹ We may select respirators assigned for use in higher workplace concentrations of a hazardous substance for use at lower concentrations of that substance, or when required respirator use is independent of concentration.

² The assigned protection factors in this table are only effective when used as part of this effective respirator program.

³ This APF category includes filtering facepieces, and half masks with elastomeric facepieces.

⁴ We must have evidence from the respirator manufacturer that testing of these respirators demonstrates performance at a level of protection of 1,000 or greater to receive an APF of 1,000. This level of performance is demonstrated by performing a WPF or SWPF study or equivalent testing. Absent such testing, all other PAPRs and SARs with helmets/hoods are treated as loose-fitting facepiece respirators, and will receive an APF of 25.

⁵ These APFs do not apply to respirators used solely for escape.

MEDICAL SURVEILLANCE

Employees covered under the respiratory protection program are required to participate in the medical surveillance program. A respirator medical evaluation questionnaire meeting the requirements of Appendix E to §1910.134 is included in this program as Appendix B.

Employees who are either required to wear respirators, or who choose to wear certain respirators voluntarily, must pass a medical exam before the employee is permitted to wear a respirator on the job.

Employees are not permitted to wear respirators until a physician has determined that they are medically able to do so. Any employee refusing the medical evaluation is not allowed to work in an area requiring respirator use.

A licensed physician will provide the medical evaluations. Medical evaluation procedures are as follows:

- Conduct the medical evaluation using the questionnaire provided in Appendix B. The Program Administrator will provide a copy of this questionnaire to all employees requiring medical evaluations.

- Provide assistance to employees who are unable to read the questionnaire (by providing help in reading the questionnaire).
- Permit the employees to fill out the questionnaire on company time.
- Grant follow-up medical exams to employees as required by the standard.
- Grant all employees the opportunity to speak with the physician about their medical evaluation.
- The Program Administrator is to provide the licensed physician with a copy of this program, a copy of the Respiratory Protection Standard, the list of hazardous substances by work area, and, for each employee requiring evaluation: their work area or job title, proposed respirator type and weight, length of time required to wear a respirator, expected physical work load (light, moderate, or heavy), potential temperature and humidity extremes, and any additional protective clothing required.
- Provide any employee required for medical reasons to wear a positive pressure air-purifying respirator with a powered air-purifying respirator.
- Conduct additional medical evaluations after an employee has received clearance and begun to wear his/her respirator under the following circumstances:
 - The employee reports signs and/or symptoms relating to the ability to use a respirator, such as shortness of breath, dizziness, chest pains, or wheezing
 - The physician, supervisor, or Program Administrator informs the company that it is necessary to reevaluate the employee
 - Information from this program, including observations made during fit testing and program evaluation, indicates a need for reevaluation
 - A change occurs in workplace conditions that may result in an increased physiological burden on the employee

All examinations and questionnaires are to remain confidential between the employee and the physician.

FIT TESTING

The safe and effective use of respiratory protective equipment requires that the respirator be properly fitted to the employee. Poorly fit respirators fail to provide the expected degree of protection. Additionally, no single model or size of respirator is capable of fitting all people. Several models are needed to determine which provides an acceptable fit.

Fit test employees who are required to wear respirators:

- Prior to being allowed to wear any respirator with a tight fitting face-piece
- Annually

- When there are changes in the employee's physical condition that could affect respiratory fit (e.g., obvious change in body weight, facial scarring, significant dental changes, etc.)
- Whenever a different respirator facepiece is used

Fit test employees with the make, model, and size of respirator that they will actually wear. Provide employees with several models and sizes of respirators so that they may find an optimal fit. Fit testing of PAPRs is conducted in the negative pressure mode.

An employee cannot wear a face-sealing respirator if there is any facial hair present between the skin and face-mask seal surface that interferes with the seal. Correct any other condition identified during the fit testing that interferes with the sealing surface of the face-piece or interferes with the valve function.

Refer any employee who experiences difficulty breathing or exhibits severe psychological reaction during any phase of fittesting to the Program Administrator to re-evaluate whether the employee is capable of wearing a respirator.

The Program Administrator will maintain records of fit-tests to assure testing is current. The Program Administrator is responsible for procurement of appropriate respiratory protection. The Program Administrator is responsible for ensuring employees were fit-tested as required by this program, and will ensure that respirators are not issued to or used by any employee who has not met this requirement.

RESPIRATOR USE

Respirator Inspection:

Prior to daily use of a respirator, the employee will inspect the general condition of the respirator including facepiece, valves, cartridges, and straps. Parts are replaced as necessary. Employees are also required to conduct a monthly documented inspection using the respirator inspection form located in Appendix I.

Before Use Inspection Checklist:

Facepiece:

- Dirt
 - Cracks, tears, or holes
 - Distortion of facepiece
 - Cracked, scratched, or loose fitting lenses
- Headstraps:
- Breaks or tears
 - Loss of elasticity
 - Broken buckles or attachments

Inhalation and Exhalation Valves:

- Dust particles, dirt, or detergent residue on valve and valve seat
 - Cracks, tears, or distortion in valve material
 - Missing or defective valve covers
- Filter Elements:

- Proper filter for the hazard
- Approval designation
- Missing or worn gaskets
- Worn threads on filter and facepiece
- Cracks or dents in filter housing
- Deterioration of canister harness
- Service life indicator, or end of service date

Seal Check:

- Perform a user seal check each time a respirator is donned (when using a disposable respirator, follow manufacturers directions to assure a proper seal).
- Positive Pressure Check – Block the openings of the exhalation valve guard and exhale slightly. If the facepiece bulges slightly, an effective seal was obtained.
- Negative Pressure Check – Place palms over the openings in the cartridges or remove the cartridges and place palms over the inhalation connectors. Inhale and hold your breath for 5 seconds. If the facepiece collapses slightly and no air leaks between the facepiece and your face are detected, an effective fit was obtained. If air leaks are detected, reposition the facepiece on your face and repeat the procedure until an effective seal is obtained.

Do not use respirators if facial hair may interfere with a proper seal. In addition, ensure that the use of goggles, safety glasses, or prescription lenses does not interfere with obtaining a proper seal.

Leave respiratory protection areas if vapor or gas breakthrough occurs or if a change in breathing resistance occurs. Inspect the respirator to determine the cause and necessary parts and/or cartridges replaced.

Clean and disinfect respirators according to the schedule provided in Appendix D.

Store respirators in a plastic bag to protect them from damage, contamination, and dust. Store respirators to prevent exposure to sunlight, extreme temperatures, excessive moisture, and damaging chemicals. Store respirators flat to prevent deformation of the facepiece.

CLEANING AND MAINTENANCE

Respirator Disassembly

- Remove filters and/or cartridges from face piece.
- Inspect head straps and clips for abuse. Check all elastomer and rubber parts for pliability and signs of deterioration.
- Unscrew and remove exhalation valve guard, valve and seat.
- Remove the threaded plastic flange which holds the exhalation valve seat from the inside of the oral/nasal cup.
- Remove oral/nasal cup assembly by pulling it from the mask.
- Unscrew the nut retaining the speaker diaphragm and remove the diaphragm and O-ring. Inspect the O-ring for damage, replace if necessary.
- Remove the speaker adapter and gasket from the face piece by unscrewing the nut on the outside. Inspect the gasket for damage and replace if necessary.
- Remove the cartridge connectors and their grommets from the face piece.
- Inspect grommet for damage and replace if necessary.
- Wash the face piece and accessories in warm soapy water. Gently scrub with a soft bristle brush. *NOTE: Use warm water (110°F - 125°F). Rinse parts thoroughly in clean water.*
- Air dry in a clean place or wipe dry with a lintless cloth.

Reassembly

- Visually inspect the exhalation valve for damage. If physical abuse is evident, replace.
- Check oral/nasal cup and its inhalation valves for distortion and completeness.
- Reassemble the face piece by reversing the disassembly steps. Make sure all O-rings and gaskets are in place.
- Immerse the respirator body for two minutes in a 50 ppm chlorine solution (about 2 ml bleach to 1 liter of water).
- Rinse thoroughly in clean water and dry.

NOTE: Use care to ensure the respirator is thoroughly rinsed after cleaning and sanitizing to prevent dermatitis.

Storage

After inspection, cleaning and necessary repair, store respirators in an area to protect against dust, sunlight, heat, extreme cold, excessive moisture or damaging chemicals. See discussion above regarding storage.

CARTRIDGE CHANGE SCHEDULE

A cartridge's useful service life is how long it provides adequate protection from harmful chemicals in the air. The service life of a cartridge depends upon many variables including environmental (heat and humidity) conditions, employee breathing rate, frequency of use by employee (e.g., continuously or intermittently), cartridge filtering capacity, the number and concentration of the contaminants in the air, etc.

Develop a respirator cartridge change out schedule for cartridges or canisters used with air purifying respirators that do not have an End of Service Life Indicator (ESLI). The purpose of this is to prevent contaminants from breaking through the respirator's sorbent cartridge(s), and thereby over-exposing employees.

- 1) Employees wearing APRs or PAPRs with P100 filters for protection against wood dust and other particulates will change the cartridges on their respirators when they first begin to experience difficulty breathing (i.e., resistance) while wearing their masks.
- 2) Employees wearing APRs with organic vapor cartridges will change the cartridges on their respirators in accordance with the manufacturer's recommendation or through information obtained from either for the following: Manufacturer - 3M has an interactive "Cartridge Service Life" program which is available for free at: www.mmm.com/market/safety/ohes2/index.html This program will estimate cartridge service life for 3M products against many contaminants. The program does not evaluate the service life against mixtures (multiple contaminants).

OSHA – OSHA provides a Math Model "eTool" in their "Respiratory Protection Advisor – Respirator Change Schedules," which estimates cartridge service life. The Math Model is available for free at:

DEFECTIVE RESPIRATORS

1. Take respirators that are defective or have defective parts out of service immediately. If, during an inspection, an employee discovers a defect in a respirator, bring the defect to the attention of the Program Administrator or other responsible party who will decide whether to:
 - Temporarily take the respirator out of service until it is repaired.
 - Perform a simple fix on the spot such as replacing a headstrap.
 - Dispose of the respirator due to an irreparable problem or defect.
2. When a respirator is taken out of service for an extended period of time, tag the respirator out of service, and give the employee a replacement of similar make, model, and size. Keep all tagged out respirators in the storage cabinet inside the Program Administrator's office.

www.osha.gov/SLTC/etools/respiratory/change_schedule.html

VOLUNTARY RESPIRATOR USE

Employees may voluntarily use respiratory protection when not required for job duties only when it is determined that the respirator itself does not present a hazard.

Employees voluntarily using respirators will comply with Appendix F of this program.

Medically approve those employees voluntarily using respiratory protection to wear the respirator (Exception: Not required for filtering face pieces). Maintain respirators in accordance with all aspects of this policy

EMERGENCY RESPIRATOR USE

The Program Administrator will develop specific procedures related to emergency respirator use. Supplemental procedures for emergency respirator use are included as Appendix G.

RESPIRATORS FOR IDLH ATMOSPHERES

The Program Administrator will develop specific procedures related to Immediately Dangerous to Life and Health (IDLH) use. Supplemental procedures for IDLH respirator use are included as Appendix H.

TRAINING

Train all employees participating in our respiratory protection program initially annually, and when the following situations occur:

- Changes in the workplace of the type that would render previous training obsolete
- Inadequacies in the employee's knowledge or skill demonstrate retraining is necessary
- Other situations that arise indicating retraining is necessary. Topics included in the training program will consist of, but are not limited to:
 - Why the respirator is necessary and how improper fit, usage, or maintenance can compromise the protective effect of the respirator
 - What are the limitations and capabilities of the respirator
 - How to use the respirator effectively in emergency situations, including situations in which the respirator malfunctions
 - How to inspect, put on and remove, use, and check the seals of the respirator
 - What the procedures are for maintenance and storage of the respirator
 - How to recognize medical signs and symptoms that may limit or prevent the effective use of respirators

PROGRAM EVALUATION

The Program Administrator will evaluate the respiratory protection program to ensure that the provisions of the policy are effective. Interview employees periodically to assess program effectiveness and proper respirator usage. Factors may include respirator fit, proper respirator usage, appropriate respirator selections, and respirator maintenance and storage.

RECORDKEEPING

The Program Administrator will maintain records of all medical evaluations, fit testing, training and all other elements of the respirator protection program, as well as a copy of this respiratory protection program.

Retain and make available records of medical evaluations required by OSHA in accordance with 29 CFR 1910.1020. Qualitative and quantitative fit tests records will include:

- The name or identification of the employee tested;
- Type of fit test performed;
- Specific make, model, style, and size of respirator tested;
- Date of test; and
- The pass/fail results for QLFTs or the fit factor and strip chart recording or other recording of the test results for QNFTs.

Retain fit test records for respirator users until the next fit test is administered.

Appendix A – Respirator Request Form

EMPLOYEE INFORMATION

First Name: _____ Last Name: _____

Position/Task Name: _____ Dept/Unit/Shop: _____

WORK INFORMATION

Describe the Hazards/Agents Products:

Are current MSDS available? Yes ☐ No ☐

(Current MSDS are necessary for hazard assessment and respirator selection.)

Describe the Activities/Processes:

Frequency of Activity/Process: Rarely ☐ Occasionally ☐ Frequently ☐ Task Specific ☐

Please explain: _____

Contaminant Forms: (Check all that apply)

Particulate ☐ Vapor Gas ☐ Fume ☐

Current Engineering Controls: (Check all that apply)

None ☐ Substitution by less toxic material ☐ Isolation or enclosure of operation or process ☐

General ventilation dilution ☐ Local Exhaust: Hood, vented duct or other ventilation apparatus ☐

Tools or equipment designed to minimize exposure ☐ _____ Other ☐

Explain: _____

Current Administrative Controls: (Check all that apply)

Employee Training ☐ SOP (Specify) ☐ Other ☐ Explain: _____

PPE/Other Equipment: (Check all that apply)

None ☐ Gloves ☐ Hard Hat ☐ Face Shield ☐ Safety Goggles ☐ Lab Coat ☐ Coveralls ☐ Other ☐

Special Uses: (Check all that apply)

None ☐ Riot Control ☐ Rescue ☐ Biological Use ☐ Chemical Spill Clean-up ☐ Pesticide Application ☐

Escape Only (Specify) ☐ Confined Space Entry ☐ Other ☐

Physical Demands of Work: (Check all that apply)

Constant ☐ Intermittent ☐ Light (i.e. Standing) ☐ Moderate (i.e. Walking) ☐ Heavy (i.e. Digging) ☐

High Temperatures ☐ Low Temperatures ☐ Other ☐

Appendix B – Medical Surveillance Questionnaire

TO THE EMPLOYER

Answers to questions in Section 1, and to question 9 in Section 2 of Part A, do not require a medical examination.

TO THE EMPLOYEE

Can you read and check off: Yes ☐ No ☐

Your employer must allow you to answer this questionnaire during normal working hours, or at a time and place that is convenient to you. To maintain your confidentiality, your employer or supervisor must not look at or review your answers, and your employer must tell you how to deliver or send this questionnaire to the health care professional who will review it.

PART A – SECTION 1 (MANDATORY)

Every employee must provide the following information if they were selected to use any type of respirator (please print).

1. Today's date: _____
2. Your name: _____
3. Your age (to nearest year): _____
4. Sex: Male ☐ Female ☐
5. Your height: _____ ft. _____ in.
6. Your weight: _____ lbs.
7. Your job title: _____
8. Provide a phone number where the health care professional who reviews this questionnaire can reach you (include the Area Code): _____
9. The best time to phone you at this number: _____
10. Has your employer told you how to contact the health care professional who will review this questionnaire:
Yes ☐ No ☐
11. Check the type of respirator you will use (you can check more than one category):
☐ N, R, or P disposable respirator (filter-mask, non- cartridge type only).
☐ Other type (for example, half- or full-facepiece type, powered-air purifying, supplied-air, self-contained breathing apparatus).
12. Have you worn a respirator: Yes ☐ No ☐
If "yes," what type(s): _____

PART A – SECTION 2 (MANDATORY)

Every employee who was selected to use any type of respirator must answer Questions 1 through 9 (please check "yes" or "no")

1. Do you currently smoke tobacco, or have you smoked tobacco in the last month? .Yes ☐ No ☐

2. Have you ever had any of the following conditions?
 - Seizures (fits)Yes ☐ No ☐
 - Diabetes (sugar disease)Yes ☐ No ☐
 - Allergic reactions that interfere with your breathingYes ☐ No ☐
 - Claustrophobia (fear of closed-in places)Yes ☐ No ☐
 - Trouble smelling odors.Yes ☐ No ☐

3. Have you ever had any of the following pulmonary or lung problems?
 - AsbestosisYes ☐ No ☐
 - AsthmaYes ☐ No ☐
 - Chronic bronchitisYes ☐ No ☐
 - EmphysemaYes ☐ No ☐
 - PneumoniaYes ☐ No ☐
 - TuberculosisYes ☐ No ☐
 - SilicosisYes ☐ No ☐
 - Pneumothorax (collapsed lung)Yes ☐ No ☐
 - Lung cancerYes ☐ No ☐
 - Broken ribsYes ☐ No ☐
 - Any chest injuries or surgeriesYes ☐ No ☐
 - Any other lung problem that you've been told aboutYes ☐ No ☐

4. Do you currently have any of the following symptoms of pulmonary or lung illness?
 - Shortness of breathYes ☐ No ☐
 - Shortness of breath when walking fast on level ground or walking up a slight hill or incline.Yes ☐ No ☐
 - Shortness of breath when walking with other people at an ordinary pace on level groundYes ☐ No ☐
 - Have to stop for breath when walking at your own pace on level groundYes ☐ No ☐
 - Shortness of breath when washing or dressing yourselfYes ☐ No ☐
 - Shortness of breath that interferes with your job.Yes ☐ No ☐
 - Coughing that produces phlegm (thick sputum)Yes ☐ No ☐
 - Coughing that wakes you early in the morningYes ☐ No ☐
 - Coughing that occurs mostly when you are lying downYes ☐ No ☐
 - Coughing up blood in the last month.Yes ☐ No ☐
 - Wheezing.Yes ☐ No ☐
 - Wheezing that interferes with your jobYes ☐ No ☐
 - Chest pain when you breathe deeply.Yes ☐ No ☐
 - Any other symptoms that you think may be related to lung problemsYes ☐ No ☐

5. Have you ever had any of the following cardiovascular or heart problems?

- Heart attack.....Yes ☐ No ☐
- Stroke.....Yes ☐ No ☐
- Angina.....Yes ☐ No ☐
- Heart failure.....Yes ☐ No ☐
- Swelling in your legs or feet (not caused by walking).....Yes ☐ No ☐
- Heart arrhythmia (heart beating irregularly).....Yes ☐ No ☐
- High blood pressure.....Yes ☐ No ☐
- Any other heart problem that you were told about.....Yes ☐ No ☐

6. Have you ever had any of the following cardiovascular or heart symptoms?

- Frequent pain or tightness in your chest.....Yes ☐ No ☐
- Pain or tightness in your chest during physical activity.....Yes ☐ No ☐
- Pain or tightness in your chest that interferes with your job.....Yes ☐ No ☐
- In the past two years, have you noticed your heart skipping or missing a beat.....Yes ☐ No ☐
- Heartburn or indigestion that is not related to eating.....Yes ☐ No ☐
- Any other symptoms that you think are related to heart or circulation problems.....Yes ☐ No ☐

7. Do you currently take medication for any of the following problems?

- Breathing or lung problems.....Yes ☐ No ☐
- Heart trouble.....Yes ☐ No ☐
- Blood pressure.....Yes ☐ No ☐
- Seizures (fits).....Yes ☐ No ☐

8. If you've used a respirator, have you ever had any of the following problems?

(If you've never used a respirator, check the following space and go to question 9)

- Eye irritation.....Yes ☐ No ☐
- Skin allergies or rashes.....Yes ☐ No ☐
- Anxiety.....Yes ☐ No ☐
- General weakness or fatigue).....Yes ☐ No ☐
- Any other problem that interferes with your use of a respirator.....Yes ☐ No ☐

9. Would you like to talk to the health care professional who will review this questionnaire about your answers to this questionnaire?

Yes ☐ No ☐

Every employee must answer Questions 10 to 15 who was selected to use either a full-facepiece respirator or a self-contained breathing apparatus (SCBA). For employees who were selected to use other types of respirators, answering these questions is voluntary.

10. Have you ever lost vision in either eye (temporarily or permanently)? Yes ☐ No ☐

11. Do you currently have any of the following vision problems?

Wear contact lenses.....Yes ☐ No ☐
 Wear glasses.....Yes ☐ No ☐
 Color blind.....Yes ☐ No ☐
 Any other eye or vision problem.....Yes ☐ No ☐

12. Have you ever had an injury to your ears, including a broken ear drum? Yes ☐ No ☐

13. Do you currently have any of the following hearing problems?

Difficulty hearing.....Yes ☐ No ☐
 Wear a hearing aid.....Yes ☐ No ☐
 Any other hearing or ear problem.....Yes ☐ No ☐

14. Have you ever had a back injury? Yes ☐ No ☐

15. Do you currently have any of the following musculoskeletal problems?

Weakness in any of your arms, hands, legs, or feet.....Yes ☐ No ☐
 Back pain.....Yes ☐ No ☐
 Difficulty fully moving your arms and legs.....Yes ☐ No ☐
 Pain or stiffness when you lean forward or backward at the waist.....Yes ☐ No ☐
 Difficulty fully moving your head up or down.....Yes ☐ No ☐
 Difficulty fully moving your head side to side.....Yes ☐ No ☐
 Difficulty bending at your knees.....Yes ☐ No ☐
 Difficulty squatting to the ground.....Yes ☐ No ☐
 Climbing a flight of stairs or a ladder carrying more than 25 lbs.....Yes ☐ No ☐
 Any other muscle or skeletal problem that interferes with using a respirator.....Yes ☐ No ☐

Part B

Any of the following questions, and other questions not listed, may be added to the questionnaire at the discretion of the health care professional who will review the questionnaire.

1. In your present job, are you working at high altitudes (over 5,000 feet) or in a place that has lower than normal amounts of oxygen: Yes ☐ No ☐

If "yes," do you have feelings of dizziness, shortness of breath, pounding in your chest, or other symptoms when you're working under these conditions: Yes ☐ No ☐

2. At work or at home, have you ever been exposed to hazardous solvents, hazardous airborne chemicals (e.g., gases, fumes, or dust), or have you come into skin contact with hazardous chemicals: Yes ☐ No ☐

If "yes," name the chemicals if you know them: _____

3. Have you ever worked with any of the materials, or under any of the conditions, listed below?

Asbestos Yes ☐ No ☐
Silica (e.g., in sandblasting) Yes ☐ No ☐
Tungsten/cobalt (e.g., grinding or welding this material) Yes ☐ No ☐
Beryllium Yes ☐ No ☐
Aluminum Yes ☐ No ☐
Coal (for example, mining) Yes ☐ No ☐
Iron Yes ☐ No ☐
Tin Yes ☐ No ☐
Dusty environments Yes ☐ No ☐
Any other hazardous exposures Yes ☐ No ☐

If "yes," describe these exposures: _____

4. List any second jobs or side businesses you have: _____

5. List your previous occupations: _____

6. List your current and previous hobbies: _____

7. Were you in the military services? Yes ☐ No ☐

If "yes," were you exposed to biological or chemical agents (either in training or combat)? Yes ☐ No ☐

8. Have you ever worked on a HAZMAT team? Yes ☐ No ☐

9. Other than medications for breathing and lung problems, heart trouble, blood pressure, and seizures mentioned earlier in this questionnaire, are you taking any other medications for any reason (including over-the-counter medications): Yes ☐ No ☐

If "yes," name the medications if you know them: _____

10. Will you use any of the following items with your respirator(s)?

HEPA Filters: Yes ☐ No ☐

Canisters (for example, gas masks): Yes ☐ No ☐

Cartridges: Yes ☐ No ☐

11. How often are you expected to use the respirator(s)?

Escape only (no rescue): Yes ☐ No ☐

Emergency rescue only: Yes ☐ No ☐

Less than 5 hours per week: Yes ☐ No ☐

Less than 2 hours per day: Yes ☐ No ☐

2 to 4 hours per day: Yes ☐ No ☐

Over 4 hours per day: Yes ☐ No ☐

12. During the period you are using the respirator(s), is your work effort:

Light (less than 200 kcal per hour): Yes ☐ No ☐

If "yes," how long does this period last during the average shift: _____ hrs. ____ mins.

Examples of a light work effort are sitting while writing, typing, drafting, or performing light assembly work; or standing while operating a drill press (1-3 lbs.) or controlling machines.

Moderate (200 to 350 kcal per hour): Yes ☐ No ☐

If "yes," how long does this period last during the average shift: _____ hrs. ____ mins.

Examples of moderate work effort are sitting while nailing or filing; driving a truck or bus in urban traffic; standing while drilling, nailing, performing assembly work, or transferring a moderate load (about 35 lbs.) at trunk level; walking on a level surface about 2 mph or down a 5-degree grade about 3 mph; or pushing a wheelbarrow with a heavy load (about 100 lbs.) on a level surface.

Heavy (above 350 kcal per hour): Yes ☐ No ☐

If "yes," how long does this period last during the average shift: _____ hrs. ____ mins.

Examples of heavy work are lifting a heavy load (about 50 lbs.) from the floor to your waist or shoulder; working on a loading dock; shoveling; standing while bricklaying or chipping castings; walking up an 8-degree grade about 2 mph; climbing stairs with a heavy load (about 50 lbs.).

13. Will you wear protective clothing and/or equipment (other than the respirator) when you're using your respirator?

Yes ☐ No ☐

If "yes," describe this protective clothing and/or equipment: _____

14. Will you work under hot conditions (temperature exceeding 77 deg. F)?

Yes ☐ No ☐

15. Will you work under humid conditions?

Yes ☐ No ☐

16. Describe the work you do while you're using your respirator(s): _____

17. Describe any special or hazardous conditions you might encounter when you're using your respirator(s)
(for example, confined spaces, life-threatening gases): _____

18. Provide the following information, if you know it, for each toxic substance that you are exposed to when you are using your respirator(s):

Name of the first toxic substance: _____

Estimated maximum exposure level per shift: _____

Duration of exposure per shift: _____

Name of the second toxic substance: _____

Estimated maximum exposure level per shift: _____

Duration of exposure per shift: _____

Name of the first toxic substance: _____

Estimated maximum exposure level per shift: _____

Duration of exposure per shift: _____

The name of any other toxic substances that you are exposed to while using your respirator: _____

19. Describe any special responsibilities you'll have while using your respirator(s) that may affect the safety and well-being of others (for example, rescue, security): _____

Appendix C – Fit Testing Document Form

OSHA-Accepted Fit Test Protocols

Fit Testing Procedures – General Requirements

The employer will conduct fit testing using the following procedures. The requirements in this appendix apply to all OSHA-accepted fit test methods, both QLFT and QNFT.

1. Allow the employee to pick the most acceptable respirator from a sufficient number of respirator models and sizes so that the respirator is acceptable to, and correctly fits, the user.
2. Prior to the selection process, show the employee how to put on a respirator, how it is positioned on the face, how to set strap tension and how to determine an acceptable fit. Provide a mirror to assist the employee in evaluating the fit and positioning of the respirator. This instruction may not constitute the employee's formal training on respirator use, because it is only a review.
3. Inform the employee that he/she is being asked to select the respirator that provides the most acceptable fit. Each respirator represents a different size and shape, and if fitted and used properly, will provide adequate protection.
4. Instruct each employee to hold each chosen facepiece up to the face and eliminate those that obviously do not give an acceptable fit.
5. The more acceptable facepieces are noted in case the one selected proves unacceptable; the most comfortable mask is donned and worn at least five minutes to assess comfort. Assistance in assessing comfort is given by discussing the points in the following item A.6. If the employee is not familiar with using a particular respirator, direct the employee to don the mask several times and to adjust the straps each time to become adept at setting proper tension on the straps.
6. Assessment of comfort will include a review of the following points with the employee and allowing the employee adequate time to determine the comfort of the respirator:
 - 6.(a) Position of the mask on the nose
 - 6.(b) Room for eye protection
 - 6.(c) Room to talk
 - 6.(d) Position of mask on face and cheeks
7. Use the following criteria to help determine the adequacy of the respirator fit:
 - 6.(a) Chin properly placed;
 - 6.(b) Adequate strap tension, not overly tightened;
 - 6.(c) Fit across nose bridge;
 - 6.(d) Respirator of proper size to span distance from nose to chin;
 - 6.(e) Tendency of respirator to slip;
 - 6.(f) Self-observation in mirror to evaluate fit and respirator position.
8. The employee will conduct a user seal check, either the negative and positive pressure seal checks described in Appendix B-1 of this section or those recommended by the respirator manufacturer which provide equivalent protection to the procedures in Appendix B-1. Before conducting the negative and positive pressure checks, instruct the employee to seat the mask on the face by moving the head from side-to-side and up and down slowly while taking in a few slow deep breaths. Select another facepiece and retest if the employee fails the user seal check tests.
9. Do not conduct the test if there is any hair growth between the skin and the facepiece sealing surface, such as stubble beard growth, beard, mustache or sideburns which cross the respirator sealing surface. Remove or alter any type of apparel which interferes with a satisfactory fit.
10. If an employee exhibits difficulty in breathing during the tests, refer the employee to a physician or other licensed health care professional, as appropriate, to determine whether the employee can wear a respirator while performing her or his duties.
11. If the employee finds the fit of the respirator unacceptable, give the employee the opportunity to select a different respirator and to be retested.
12. Exercise regimen. Give the employee, prior to the commencement of the fit test, a description of the fit test and the employee's responsibilities during the test procedure. The description of the process will include a description of the test exercises that the employee will perform as part of the test. The employee must wear the respirator for at least 5 minutes before the start of the fit test.

13. Perform the fit test while the employee is wearing any applicable safety equipment that is worn during actual respirator use which could interfere with respirator fit.

14. Test Exercises.

(a) Perform the following test exercises for all fit testing methods prescribed in this appendix, except for the CNP method. A separate fit testing exercise regimen is contained in the CNP protocol. The employee will perform exercises, in the test environment, in the following manner:

- (1) **Normal breathing.** In a normal standing position, without talking, the employee will breathe normally.
- (2) **Deep breathing.** In a normal standing position, the employee will breathe slowly and deeply, taking caution so as not to hyperventilate.
- (3) **Turning head side to side.** Standing in place, the employee will slowly turn his/her head from side to side between the extreme positions on each side. Hold the head at each extreme momentarily so the employee can inhale at each side.
- (4) **Moving head up and down.** Standing in place, the employee will slowly move his/her head up and down. Instruct the employee to inhale in the up position (i.e., when looking toward the ceiling).
- (5) **Talking.** Request the employee to talk out loud slowly and loud enough so they are heard clearly by the test conductor. The employee can read from a prepared text such as the Rainbow Passage, count backward from 100, or recite a memorized poem or song.

Rainbow Passage

"When the sunlight strikes raindrops in the air, they act like a prism and form a rainbow. The rainbow is a division of white light into many beautiful colors. These take the shape of a long round arch, with its path high above, and its two ends apparently beyond the horizon. There is, according to legend, a boiling pot of gold at one end. People look, but no one ever finds it. When a man looks for something beyond reach, his friends say he is looking for the pot of gold at the end of the rainbow."

- (6) **Grimace.** Request the employee to grimace by smiling or frowning. (This applies only to QNFT testing; it is not performed for QLFT)
 - (7) **Bending over.** Request the employee to bend at the waist as if he/she were to touch his/her toes. Substitute jogging in place for this exercise in those test environments such as shroud type QNFT or QLFT units that do not permit bending over at the waist.
 - (8) **Normal breathing.** Same as exercise (1).
- (b) Perform each test exercise for one minute except for the grimace exercise which is performed for 15 seconds. The test conductor will ask the employee about the comfort of the respirator after completion of the protocol. Ask the employee to try another model respirator if it the test model is uncomfortable Do not adjust the respirator once the fit test exercises begin. Any adjustment voids the test, and requires a repeat fit test.

Employee Name: _____ Date: 1/10/2018

Respirator Information

Brand: _____ Style: _____

Model Number: _____ Size: _____

User Seal Check: Positive Pressure Pass ☐ Fail ☐

 Negative Pressure Pass ☐ Fail ☐

QUALITATIVE FIT TEST:

Type/Brand: _____

Expiration Date: _____

Batch Number or other tracking number mfg.: _____

Pass ☐ Fail ☐

QUANTITATIVE FIT TEST:

Brand/Model: _____

Serial Number: _____ Calibration Date: _____

Fit Factor: _____ Pass ☐ Fail ☐

Appendix D – Voluntary Use of Respirators

Appendix D to Sec. 1910.134 (Mandatory) Information for Employees Using Respirators When Not Required Under the Standard

Respirators are an effective method of protection against designated hazards when properly selected and worn. Respirator use is encouraged, even when exposures are below the exposure limit, to provide an additional level of comfort and protection for workers. However, if a respirator is used improperly or not kept clean, the respirator itself can become a hazard to the worker. Sometimes, workers may wear respirators to avoid exposures to hazards, even if the amount of hazardous substance does not exceed the limits set by OSHA standards. If your employer provides respirators for your voluntary use, or if you provide your own respirator, you need to take certain precautions to insure that the respirator itself does not present a hazard.

You should do the following:

1. Read and heed all instructions provided by the manufacturer on use, maintenance, cleaning and care, and warnings regarding the respirators limitations.

2. Choose respirators certified for use to protect against the contaminant of concern. NIOSH, the National Institute for Occupational Safety and Health of the U.S. Department of Health and Human Services, certifies respirators. A label or statement of certification should appear on the respirator or respirator packaging. It will tell you what the respirator is designed for and how much it will protect you.
3. Do not wear your respirator into atmospheres containing contaminants for which your respirator is not designed to protect against. For example, a respirator designed to filter dust particles will not protect you against gases, vapors, or very small solid particles of fumes or smoke.
4. Keep track of your respirator so that you do not mistakenly use someone else's respirator.

Appendix E – Respirator Inspection Checklist

Type of Respirator: _____ Location: _____
 Respirator Issued to: _____ Type of Hazard: _____

| | |
|-------------------------------|---|
| Face Piece | _____ Cracks, tears, or holes |
| | _____ Face mask distortion |
| | _____ Cracked or loose lenses/face shield |
| Head Straps | _____ Breaks or tears |
| | _____ Broken buckles |
| Valves | _____ Residue or dirt |
| | _____ Cracks or tears in valve material |
| Filters/Cartridges | _____ Approval designation |
| | _____ Gaskets |
| | _____ Cracks or dents in housing |
| | _____ Proper cartridge for hazard |
| Air Supply Systems | _____ Breathing air quality/grade |
| | _____ Condition of supply hoses |
| | _____ Hose connections |
| | _____ Settings on regulators and valves |
| Rubber/Elastomer Parts | _____ Pliability |
| | _____ Deterioration |

Inspected by: _____ Date: _____

Action Taken: _____

OSHA 29 CFR 1910.134 - Respiratory Protection

SCOPE AND APPLICATION

The purpose of this respiratory protection program is to provide the safest working environment for our employees. In the control of occupational diseases caused by breathing air contaminants, the primary objective is to prevent atmospheric contamination by engineering control measures. When effective engineering controls are not feasible, or while they are being instituted, our employees will use appropriate respiratory protection.

Our respirator protection program contains the following elements:

- Assignment of Responsibilities
- Workplace Hazard Analysis
- Respirator Selection
- Medical Surveillance
- Fit Testing
- Respirator Use
- Cleaning and Maintenance
- Cartridge Change Schedule
- Defective Respirators
- Voluntary Respirator Use
- Emergency Respirator Use
- Respirators for IDLH Atmospheres
- Training
- Program Evaluation
- Recordkeeping

ASSIGNMENT OF RESPONSIBILITIES

Management: Though management has the ultimate responsibility for the implementation, maintenance and the success of this respiratory protection program, the responsibilities are delegated to a named and documented Program Administrator, supervisors, and the respirator users themselves Management will:

- Assign a program administrator, who is qualified by training to serve in that role
- Ensure each suspected airborne hazard is properly evaluated
- Provide the necessary respiratory equipment

- Ensure adherence to medical clearance procedures
- Ensure proper employee safety training
- Establish and enforce safe operating rules and procedures

The Program Administrator for our Respiratory Protection Program is: Daniel Stone

Supervisors are responsible for ensuring that the respiratory protection program is implemented in their work areas.

The Program Administrator is responsible for the administration of this program and has full authority to make necessary decisions to ensure its success.

In addition, the Program Administrator is responsible for:

- Identifying work areas, processes or tasks that require workers to wear respirators, and evaluating hazards
- Selection of respiratory protection options
- Monitoring respirator use to ensure that respirators are used in accordance with their certifications
- Arranging for and/or conducting training
- Arranging for and/or conducting quantitative/qualitative fit testing
- Ensuring proper storage and maintenance of respiratory protection equipment
- Administering the medical surveillance program
- Maintaining records required by the program
- Annually evaluating the program
- Updating the written program, as needed

In addition to being knowledgeable about the program requirements for their own protection, supervisors will also ensure that the program is understood and followed by the employees under their charge. Supervisors will complete the Respirator Request Form, see Appendix A, for each employee who is assigned a respirator.

Additional duties of the supervisor include:

- Identify employees who may require a respirator and submit a Respirator Request Form
- Ensure that employees under their supervision (including new hires) have received appropriate training, fit testing, and annual medical evaluation
- Ensure the availability of appropriate respirators and accessories
- Be aware of tasks requiring the use of respiratory protection

- Enforce the proper use of respiratory protection
- Ensure that respirators are properly cleaned, maintained, and stored according to the respiratory protection program
- Develop a respirator cartridge change-out schedule with assistance from the Program Administrator. Provide user training on the change-out schedule
- Ensure that respirators fit well and do not cause discomfort
- Continually monitor work areas and operations to identify respiratory hazards
- Coordinate with the Program Administrator on how to address respiratory hazards or other concerns regarding the program

Employees have the responsibility to wear their respirators when and where required and in the manner in which they were trained.

Employees will also:

- Obtain written medical clearance specifically for respirator use prior to initial use, upon a significant change in job task or employee medical condition, or as specified in writing by physician
- Only use the brand and type of respirator for which the user was trained and fit tested
- Conduct either the positive or negative pressure check (depending on which test works best for them) specified in Appendix B-1 of the Respiratory Protection Standard.
- Ensure that their assigned respirator is properly cleaned, maintained, and stored according to the respiratory protection plan and store them in a clean and sanitary location
- Attend respirator training prior to use, annually, and as otherwise deemed necessary by the Program Administrator
- Maintain a facial surface that provides a proper fit with the respirator (e.g., clean-shaven for tight-fitting facepieces)
- Undergo fit-test for each assigned tight-fitting facepiece prior to use whenever a different tight-fitting facepiece is used, and at least annually
- Maintain each assigned respirator in a ready-to-use condition at all times
- Inspect each assigned respirator prior to and after each use, and at least monthly.
- Store written inspection records with the respirator. Inspection requirements are not applicable for single-use respirators
- Wear assigned respirator during activities that have potential for exposure over regulatory limits

- Leave the exposure area in the event of respiratory equipment malfunction, physical or psychological distress, or other unsafe conditions that require relief
- Immediately notify a supervisor of any new or changed workplace hazards, or any significant change in medical condition
- Never perform a job or be present at any location that requires respirator use unless all provisions of this respiratory protection program are observed.
- Immediately notify the Program Administrator of any problem or question about an assigned respirator or its use

WORKPLACE HAZARD ANALYSIS

We will conduct a hazard evaluation for each operation, process, or work area where there is a potential presence of airborne contaminants while conducting routine operations or during an emergency.

The hazard evaluation will include:

- 1) Identification and development of a list of hazardous substances used in the workplace, by department, or work process.
- 2) Review of work processes to determine where potential exposures to hazardous substances may occur. Conduct the review by surveying the workplace, processes, reviewing records, and talking with employees and supervisors.
- 3) Conduct exposure monitoring, which is usually conducted by a third party, to quantify potential hazardous exposures. Post the monitoring results.
- 4) If air monitoring indicates the need for employee use of respirators, the results of the monitoring will be included in our written respiratory protection program.

RESPIRATOR SELECTION

- All respirators and cartridges are NIOSH certified.
- Industrial hygiene surveys are conducted to determine respiratory protection requirements.
- Cartridges are selected according to the hazards identified in the workplace. A list of approved cartridges and change schedules is provided in Appendix E.

ASSIGNED PROTECTION FACTORS⁵

| Type of Respirator ^{1, 2} | Quarter Mask | Half Mask | Full Facepiece | Helmet/Hood | Loose-fitting Facepiece |
|---|--------------|-----------------|----------------|-----------------------|-------------------------|
| 1. Air-Purifying Respirator | 5 | ³ 10 | 50 | ..... | ..... |
| 2. Powered Air-Purifying Respirator (PAPR) | ..... | 50 | 1,000 | ⁴ 25/1,000 | 25 |
| 3. Supplied Air-Respirator (SAR) or Airline Respirator | | | | | |
| • Demand mode | ..... | 10 | 50 | ..... | ..... |
| • Continuous flow mode | ..... | 50 | 1,000 | ⁴ 25/1,000 | 25 |
| • Pressure-demand or other positive-pressure mode | ..... | 50 | 1,000 | ..... | ..... |
| 3. Self-Contained Breathing Apparatus (SCBA) | | | | | |
| • Demand mode | ..... | 10 | 50 | 50 | ..... |
| • Pressure-demand or other positive-pressure mode (e.g., open/closed circuit) | ..... | ..... | 10,000 | 10,000 | ..... |

Notes to Eye and Face Protection Selection Chart:

¹We may select respirators assigned for use in higher workplace concentrations of a hazardous substance for use at lower concentrations of that substance, or when required respirator use is independent of concentration.

²The assigned protection factors in this table are only effective when used as part of this effective respirator program.

³This APF category includes filtering facepieces, and half masks with elastomeric facepieces.

⁴We must have evidence from the respirator manufacturer that testing of these respirators demonstrates performance at a level of protection of 1,000 or greater to receive an APF of 1,000. This level of performance is demonstrated by performing a WPF or SWPF study or equivalent testing. Absent such testing, all other PAPRs and SARs with helmets/hoods are treated as loose-fitting facepiece respirators, and will receive an APF of 25.

⁵These APFs do not apply to respirators used solely for escape.

MEDICAL SURVEILLANCE

Employees covered under the respiratory protection program are required to participate in the medical surveillance program. A respirator medical evaluation questionnaire meeting the requirements of Appendix E to §1910.134 is included in this program as Appendix B.

Employees who are either required to wear respirators, or who choose to wear certain respirators voluntarily, must pass a medical exam before the employee is permitted to wear a respirator on the job.

Employees are not permitted to wear respirators until a physician has determined that they are medically able to do so. Any employee refusing the medical evaluation is not allowed to work in an area requiring respirator use.

A licensed physician will provide the medical evaluations. Medical evaluation procedures are as follows:

- Conduct the medical evaluation using the questionnaire provided in Appendix B. The Program Administrator will provide a copy of this questionnaire to all employees requiring medical evaluations.

- Provide assistance to employees who are unable to read the questionnaire (by providing help in reading the questionnaire).
- Permit the employees to fill out the questionnaire on company time.
- Grant follow-up medical exams to employees as required by the standard.
- Grant all employees the opportunity to speak with the physician about their medical evaluation.
- The Program Administrator is to provide the licensed physician with a copy of this program, a copy of the Respiratory Protection Standard, the list of hazardous substances by work area, and, for each employee requiring evaluation: their work area or job title, proposed respirator type and weight, length of time required to wear a respirator, expected physical work load (light, moderate, or heavy), potential temperature and humidity extremes, and any additional protective clothing required.
- Provide any employee required for medical reasons to wear a positive pressure air-purifying respirator with a powered air-purifying respirator.
- Conduct additional medical evaluations after an employee has received clearance and begun to wear his/her respirator under the following circumstances:
 - The employee reports signs and/or symptoms relating to the ability to use a respirator, such as shortness of breath, dizziness, chest pains, or wheezing
 - The physician, supervisor, or Program Administrator informs the company that it is necessary to reevaluate the employee
 - Information from this program, including observations made during fit testing and program evaluation, indicates a need for reevaluation
 - A change occurs in workplace conditions that may result in an increased physiological burden on the employee

All examinations and questionnaires are to remain confidential between the employee and the physician.

FIT TESTING

The safe and effective use of respiratory protective equipment requires that the respirator be properly fitted to the employee. Poorly fit respirators fail to provide the expected degree of protection. Additionally, no single model or size of respirator is capable of fitting all people. Several models are needed to determine which provides an acceptable fit.

Fit test employees who are required to wear respirators:

- Prior to being allowed to wear any respirator with a tight fitting face-piece
- Annually

- When there are changes in the employee's physical condition that could affect respiratory fit (e.g., obvious change in body weight, facial scarring, significant dental changes, etc.)
- Whenever a different respirator facepiece is used

Fit test employees with the make, model, and size of respirator that they will actually wear. Provide employees with several models and sizes of respirators so that they may find an optimal fit. Fit testing of PAPRs is conducted in the negative pressure mode.

An employee cannot wear a face-sealing respirator if there is any facial hair present between the skin and face-mask seal surface that interferes with the seal. Correct any other condition identified during the fit testing that interferes with the sealing surface of the face-piece or interferes with the valve function.

Refer any employee who experiences difficulty breathing or exhibits severe psychological reaction during any phase of fittesting to the Program Administrator to re-evaluate whether the employee is capable of wearing a respirator.

The Program Administrator will maintain records of fit-tests to assure testing is current. The Program Administrator is responsible for procurement of appropriate respiratory protection. The Program Administrator is responsible for ensuring employees were fit-tested as required by this program, and will ensure that respirators are not issued to or used by any employee who has not met this requirement.

RESPIRATOR USE

Respirator Inspection:

Prior to daily use of a respirator, the employee will inspect the general condition of the respirator including facepiece, valves, cartridges, and straps. Parts are replaced as necessary. Employees are also required to conduct a monthly documented inspection using the respirator inspection form located in Appendix I.

Before Use Inspection Checklist:

Facepiece:

- Dirt
 - Cracks, tears, or holes
 - Distortion of facepiece
 - Cracked, scratched, or loose fitting lenses
- Headstraps:
- Breaks or tears
 - Loss of elasticity
 - Broken buckles or attachments

Inhalation and Exhalation Valves:

- Dust particles, dirt, or detergent residue on valve and valve seat
 - Cracks, tears, or distortion in valve material
 - Missing or defective valve covers
- Filter Elements:

- Proper filter for the hazard
- Approval designation
- Missing or worn gaskets
- Worn threads on filter and facepiece
- Cracks or dents in filter housing
- Deterioration of canister harness
- Service life indicator, or end of service date

Seal Check:

- Perform a user seal check each time a respirator is donned (when using a disposable respirator, follow manufacturers directions to assure a proper seal).
- Positive Pressure Check – Block the openings of the exhalation valve guard and exhale slightly. If the facepiece bulges slightly, an effective seal was obtained.
- Negative Pressure Check – Place palms over the openings in the cartridges or remove the cartridges and place palms over the inhalation connectors. Inhale and hold your breath for 5 seconds. If the facepiece collapses slightly and no air leaks between the facepiece and your face are detected, an effective fit was obtained. If air leaks are detected, reposition the facepiece on your face and repeat the procedure until an effective seal is obtained.

Do not use respirators if facial hair may interfere with a proper seal. In addition, ensure that the use of goggles, safety glasses, or prescription lenses does not interfere with obtaining a proper seal.

Leave respiratory protection areas if vapor or gas breakthrough occurs or if a change in breathing resistance occurs. Inspect the respirator to determine the cause and necessary parts and/or cartridges replaced.

Clean and disinfect respirators according to the schedule provided in Appendix D.

Store respirators in a plastic bag to protect them from damage, contamination, and dust. Store respirators to prevent exposure to sunlight, extreme temperatures, excessive moisture, and damaging chemicals. Store respirators flat to prevent deformation of the facepiece.

CLEANING AND MAINTENANCE

Respirator Disassembly

- Remove filters and/or cartridges from face piece.
- Inspect head straps and clips for abuse. Check all elastomer and rubber parts for pliability and signs of deterioration.
- Unscrew and remove exhalation valve guard, valve and seat.
- Remove the threaded plastic flange which holds the exhalation valve seat from the inside of the oral/nasal cup.
- Remove oral/nasal cup assembly by pulling it from the mask.
- Unscrew the nut retaining the speaker diaphragm and remove the diaphragm and O-ring. Inspect the O-ring for damage, replace if necessary.
- Remove the speaker adapter and gasket from the face piece by unscrewing the nut on the outside. Inspect the gasket for damage and replace if necessary.
- Remove the cartridge connectors and their grommets from the face piece.
- Inspect grommet for damage and replace if necessary.
- Wash the face piece and accessories in warm soapy water. Gently scrub with a soft bristle brush. *NOTE: Use warm water (110°F - 125°F). Rinse parts thoroughly in clean water.*
- Air dry in a clean place or wipe dry with a lintless cloth.

Reassembly

- Visually inspect the exhalation valve for damage. If physical abuse is evident, replace.
- Check oral/nasal cup and its inhalation valves for distortion and completeness.
- Reassemble the face piece by reversing the disassembly steps. Make sure all O-rings and gaskets are in place.
- Immerse the respirator body for two minutes in a 50 ppm chlorine solution (about 2 ml bleach to 1 liter of water).
- Rinse thoroughly in clean water and dry.

NOTE: Use care to ensure the respirator is thoroughly rinsed after cleaning and sanitizing to prevent dermatitis.

Storage

After inspection, cleaning and necessary repair, store respirators in an area to protect against dust, sunlight, heat, extreme cold, excessive moisture or damaging chemicals. See discussion above regarding storage.

CARTRIDGE CHANGE SCHEDULE

A cartridge's useful service life is how long it provides adequate protection from harmful chemicals in the air. The service life of a cartridge depends upon many variables including environmental (heat and humidity) conditions, employee breathing rate, frequency of use by employee (e.g., continuously or intermittently), cartridge filtering capacity, the number and concentration of the contaminants in the air, etc.

Develop a respirator cartridge change out schedule for cartridges or canisters used with air purifying respirators that do not have an End of Service Life Indicator (ESLI). The purpose of this is to prevent contaminants from breaking through the respirator's sorbent cartridge(s), and thereby over-exposing employees.

- 1) Employees wearing APRs or PAPRs with P100 filters for protection against wood dust and other particulates will change the cartridges on their respirators when they first begin to experience difficulty breathing (i.e., resistance) while wearing their masks.
- 2) Employees wearing APRs with organic vapor cartridges will change the cartridges on their respirators in accordance with the manufacturer's recommendation or through information obtained from either for the following: Manufacturer - 3M has an interactive "Cartridge Service Life" program which is available for free at: www.mmm.com/market/safety/ohes2/index.html This program will estimate cartridge service life for 3M products against many contaminants. The program does not evaluate the service life against mixtures (multiple contaminants).

OSHA – OSHA provides a Math Model "eTool" in their "Respiratory Protection Advisor – Respirator Change Schedules," which estimates cartridge service life. The Math Model is available for free at:

DEFECTIVE RESPIRATORS

1. Take respirators that are defective or have defective parts out of service immediately. If, during an inspection, an employee discovers a defect in a respirator, bring the defect to the attention of the Program Administrator or other responsible party who will decide whether to:
 - Temporarily take the respirator out of service until it is repaired.
 - Perform a simple fix on the spot such as replacing a headstrap.
 - Dispose of the respirator due to an irreparable problem or defect.
2. When a respirator is taken out of service for an extended period of time, tag the respirator out of service, and give the employee a replacement of similar make, model, and size. Keep all tagged out respirators in the storage cabinet inside the Program Administrator's office.

www.osha.gov/SLTC/etools/respiratory/change_schedule.html

VOLUNTARY RESPIRATOR USE

Employees may voluntarily use respiratory protection when not required for job duties only when it is determined that the respirator itself does not present a hazard.

Employees voluntarily using respirators will comply with Appendix F of this program.

Medically approve those employees voluntarily using respiratory protection to wear the respirator (Exception: Not required for filtering face pieces). Maintain respirators in accordance with all aspects of this policy

EMERGENCY RESPIRATOR USE

The Program Administrator will develop specific procedures related to emergency respirator use. Supplemental procedures for emergency respirator use are included as Appendix G.

RESPIRATORS FOR IDLH ATMOSPHERES

The Program Administrator will develop specific procedures related to Immediately Dangerous to Life and Health (IDLH) use. Supplemental procedures for IDLH respirator use are included as Appendix H.

TRAINING

Train all employees participating in our respiratory protection program initially annually, and when the following situations occur:

- Changes in the workplace of the type that would render previous training obsolete
- Inadequacies in the employee's knowledge or skill demonstrate retraining is necessary
- Other situations that arise indicating retraining is necessary. Topics included in the training program will consist of, but are not limited to:
 - Why the respirator is necessary and how improper fit, usage, or maintenance can compromise the protective effect of the respirator
 - What are the limitations and capabilities of the respirator
 - How to use the respirator effectively in emergency situations, including situations in which the respirator malfunctions
 - How to inspect, put on and remove, use, and check the seals of the respirator
 - What the procedures are for maintenance and storage of the respirator
 - How to recognize medical signs and symptoms that may limit or prevent the effective use of respirators

PROGRAM EVALUATION

The Program Administrator will evaluate the respiratory protection program to ensure that the provisions of the policy are effective. Interview employees periodically to assess program effectiveness and proper respirator usage. Factors may include respirator fit, proper respirator usage, appropriate respirator selections, and respirator maintenance and storage.

RECORDKEEPING

The Program Administrator will maintain records of all medical evaluations, fit testing, training and all other elements of the respirator protection program, as well as a copy of this respiratory protection program.

Retain and make available records of medical evaluations required by OSHA in accordance with 29 CFR 1910.1020. Qualitative and quantitative fit tests records will include:

- The name or identification of the employee tested;
- Type of fit test performed;
- Specific make, model, style, and size of respirator tested;
- Date of test; and
- The pass/fail results for QLFTs or the fit factor and strip chart recording or other recording of the test results for QNFTs.

Retain fit test records for respirator users until the next fit test is administered.

Appendix A – Respirator Request Form

EMPLOYEE INFORMATION

First Name: _____ Last Name: _____

Position/Task Name: _____ Dept/Unit/Shop: _____

WORK INFORMATION

Describe the Hazards/Agents Products:

Are current MSDS available? Yes ☐ No ☐

(Current MSDS are necessary for hazard assessment and respirator selection.)

Describe the Activities/Processes:

Frequency of Activity/Process: Rarely ☐ Occasionally ☐ Frequently ☐ Task Specific ☐

Please explain: _____

Contaminant Forms: (Check all that apply)

Particulate ☐ Vapor Gas ☐ Fume ☐

Current Engineering Controls: (Check all that apply)

None ☐ Substitution by less toxic material ☐ Isolation or enclosure of operation or process ☐

General ventilation dilution ☐ Local Exhaust: Hood, vented duct or other ventilation apparatus ☐

Tools or equipment designed to minimize exposure ☐ _____ Other ☐

Explain: _____

Current Administrative Controls: (Check all that apply)

Employee Training ☐ SOP (Specify) ☐ Other ☐ Explain: _____

PPE/Other Equipment: (Check all that apply)

None ☐ Gloves ☐ Hard Hat ☐ Face Shield ☐ Safety Goggles ☐ Lab Coat ☐ Coveralls ☐ Other ☐

Special Uses: (Check all that apply)

None ☐ Riot Control ☐ Rescuel ☐ Biological Use ☐ Chemical Spill Clean-up ☐ Pesticide Application ☐

Escape Only (Specify) ☐ Confined Space Entry ☐ Other ☐

Physical Demands of Work: (Check all that apply)

Constant ☐ Intermittent ☐ Light (i.e. Standing) ☐ Moderate (i.e. Walking) ☐ Heavy (i.e. Digging) ☐

High Temperatures ☐ Low Temperatures ☐ Other ☐

Appendix B – Medical Surveillance Questionnaire

TO THE EMPLOYER

Answers to questions in Section 1, and to question 9 in Section 2 of Part A, do not require a medical examination.

TO THE EMPLOYEE

Can you read and check off: Yes ☐ No ☐

Your employer must allow you to answer this questionnaire during normal working hours, or at a time and place that is convenient to you. To maintain your confidentiality, your employer or supervisor must not look at or review your answers, and your employer must tell you how to deliver or send this questionnaire to the health care professional who will review it.

PART A – SECTION 1 (MANDATORY)

Every employee must provide the following information if they were selected to use any type of respirator (please print).

1. Today's date: _____
2. Your name: _____
3. Your age (to nearest year): _____
4. Sex: Male ☐ Female ☐
5. Your height: _____ ft. _____ in.
6. Your weight: _____ lbs.
7. Your job title: _____
8. Provide a phone number where the health care professional who reviews this questionnaire can reach you (include the Area Code): _____
9. The best time to phone you at this number: _____
10. Has your employer told you how to contact the health care professional who will review this questionnaire:
Yes ☐ No ☐
11. Check the type of respirator you will use (you can check more than one category):
☐ N, R, or P disposable respirator (filter-mask, non- cartridge type only).
☐ Other type (for example, half- or full-facepiece type, powered-air purifying, supplied-air, self-contained breathing apparatus).
12. Have you worn a respirator: Yes ☐ No ☐
If "yes," what type(s): _____

PART A – SECTION 2 (MANDATORY)

Every employee who was selected to use any type of respirator must answer Questions 1 through 9 (please check "yes" or "no").

1. Do you currently smoke tobacco, or have you smoked tobacco in the last month? .Yes ☐ No ☐

2. Have you ever had any of the following conditions?
 - Seizures (fits)Yes ☐ No ☐
 - Diabetes (sugar disease)Yes ☐ No ☐
 - Allergic reactions that interfere with your breathingYes ☐ No ☐
 - Claustrophobia (fear of closed-in places)Yes ☐ No ☐
 - Trouble smelling odors.Yes ☐ No ☐

3. Have you ever had any of the following pulmonary or lung problems?
 - AsbestosisYes ☐ No ☐
 - AsthmaYes ☐ No ☐
 - Chronic bronchitisYes ☐ No ☐
 - EmphysemaYes ☐ No ☐
 - PneumoniaYes ☐ No ☐
 - TuberculosisYes ☐ No ☐
 - SilicosisYes ☐ No ☐
 - Pneumothorax (collapsed lung)Yes ☐ No ☐
 - Lung cancerYes ☐ No ☐
 - Broken ribsYes ☐ No ☐
 - Any chest injuries or surgeriesYes ☐ No ☐
 - Any other lung problem that you've been told aboutYes ☐ No ☐

4. Do you currently have any of the following symptoms of pulmonary or lung illness?
 - Shortness of breathYes ☐ No ☐
 - Shortness of breath when walking fast on level ground or walking up a slight hill or incline . . .Yes ☐ No ☐
 - Shortness of breath when walking with other people at an ordinary pace on level ground . . .Yes ☐ No ☐
 - Have to stop for breath when walking at your own pace on level groundYes ☐ No ☐
 - Shortness of breath when washing or dressing yourselfYes ☐ No ☐
 - Shortness of breath that interferes with your job.Yes ☐ No ☐
 - Coughing that produces phlegm (thick sputum)Yes ☐ No ☐
 - Coughing that wakes you early in the morningYes ☐ No ☐
 - Coughing that occurs mostly when you are lying downYes ☐ No ☐
 - Coughing up blood in the last month.Yes ☐ No ☐
 - Wheezing.Yes ☐ No ☐
 - Wheezing that interferes with your jobYes ☐ No ☐
 - Chest pain when you breathe deeply.Yes ☐ No ☐
 - Any other symptoms that you think may be related to lung problemsYes ☐ No ☐

5. Have you ever had any of the following cardiovascular or heart problems?

Heart attack.....Yes ☐ No ☐
 Stroke.....Yes ☐ No ☐
 Angina.....Yes ☐ No ☐
 Heart failure.....Yes ☐ No ☐
 Swelling in your legs or feet (not caused by walking).....Yes ☐ No ☐
 Heart arrhythmia (heart beating irregularly).....Yes ☐ No ☐
 High blood pressure.....Yes ☐ No ☐
 Any other heart problem that you were told about.....Yes ☐ No ☐

6. Have you ever had any of the following cardiovascular or heart symptoms?

Frequent pain or tightness in your chest.....Yes ☐ No ☐
 Pain or tightness in your chest during physical activity.....Yes ☐ No ☐
 Pain or tightness in your chest that interferes with your job.....Yes ☐ No ☐
 In the past two years, have you noticed your heart skipping or missing a beat.....Yes ☐ No ☐
 Heartburn or indigestion that is not related to eating.....Yes ☐ No ☐
 Any other symptoms that you think are related to heart or circulation problems.....Yes ☐ No ☐

7. Do you currently take medication for any of the following problems?

Breathing or lung problems.....Yes ☐ No ☐
 Heart trouble.....Yes ☐ No ☐
 Blood pressure.....Yes ☐ No ☐
 Seizures (fits).....Yes ☐ No ☐

8. If you've used a respirator, have you ever had any of the following problems?

(If you've never used a respirator, check the following space and go to question 9)

Eye irritation.....Yes ☐ No ☐
 Skin allergies or rashes.....Yes ☐ No ☐
 Anxiety.....Yes ☐ No ☐
 General weakness or fatigue.....Yes ☐ No ☐
 Any other problem that interferes with your use of a respirator.....Yes ☐ No ☐

9. Would you like to talk to the health care professional who will review this questionnaire about your answers to this questionnaire?

Yes ☐ No ☐

Every employee must answer Questions 10 to 15 who was selected to use either a full-facepiece respirator or a self-contained breathing apparatus (SCBA). For employees who were selected to use other types of respirators, answering these questions is voluntary.

10. Have you ever lost vision in either eye (temporarily or permanently)? Yes ☐ No ☐

11. Do you currently have any of the following vision problems?

Wear contact lenses.....Yes ☐ No ☐

Wear glasses.....Yes ☐ No ☐

Color blind.....Yes ☐ No ☐

Any other eye or vision problem.....Yes ☐ No ☐

12. Have you ever had an injury to your ears, including a broken ear drum? Yes ☐ No ☐

13. Do you currently have any of the following hearing problems?

Difficulty hearing.....Yes ☐ No ☐

Wear a hearing aid.....Yes ☐ No ☐

Any other hearing or ear problem.....Yes ☐ No ☐

14. Have you ever had a back injury? Yes ☐ No ☐

15. Do you currently have any of the following musculoskeletal problems?

Weakness in any of your arms, hands, legs, or feet.....Yes ☐ No ☐

Back pain.....Yes ☐ No ☐

Difficulty fully moving your arms and legs.....Yes ☐ No ☐

Pain or stiffness when you lean forward or backward at the waist.....Yes ☐ No ☐

Difficulty fully moving your head up or down.....Yes ☐ No ☐

Difficulty fully moving your head side to side.....Yes ☐ No ☐

Difficulty bending at your knees.....Yes ☐ No ☐

Difficulty squatting to the ground.....Yes ☐ No ☐

Climbing a flight of stairs or a ladder carrying more than 25 lbs.....Yes ☐ No ☐

Any other muscle or skeletal problem that interferes with using a respirator.....Yes ☐ No ☐

Part B

Any of the following questions, and other questions not listed, may be added to the questionnaire at the discretion of the health care professional who will review the questionnaire.

1. In your present job, are you working at high altitudes (over 5,000 feet) or in a place that has lower than normal amounts of oxygen: Yes ☐ No ☐

If "yes," do you have feelings of dizziness, shortness of breath, pounding in your chest, or other symptoms when you're working under these conditions: Yes ☐ No ☐

2. At work or at home, have you ever been exposed to hazardous solvents, hazardous airborne chemicals (e.g., gases, fumes, or dust), or have you come into skin contact with hazardous chemicals: Yes ☐ No ☐

If "yes," name the chemicals if you know them: _____

3. Have you ever worked with any of the materials, or under any of the conditions, listed below?

AsbestosYes ☐ No ☐

Silica (e.g., in sandblasting)Yes ☐ No ☐

Tungsten/cobalt (e.g., grinding or welding this material)Yes ☐ No ☐

BerylliumYes ☐ No ☐

AluminumYes ☐ No ☐

Coal (for example, mining)Yes ☐ No ☐

IronYes ☐ No ☐

TinYes ☐ No ☐

Dusty environmentsYes ☐ No ☐

Any other hazardous exposuresYes ☐ No ☐

If "yes," describe these exposures: _____

4. List any second jobs or side businesses you have: _____

5. List your previous occupations: _____

6. List your current and previous hobbies: _____

7. Were you in the military services? Yes ☐ No ☐

If "yes," were you exposed to biological or chemical agents (either in training or combat)? Yes ☐ No ☐

8. Have you ever worked on a HAZMAT team? Yes ☐ No ☐

9. Other than medications for breathing and lung problems, heart trouble, blood pressure, and seizures mentioned earlier in this questionnaire, are you taking any other medications for any reason (including over-the-counter medications): Yes ☐ No ☐

If "yes," name the medications if you know them: _____

10. Will you use any of the following items with your respirator(s)?

HEPA Filters:Yes ☐ No ☐

Canisters (for example, gas masks):Yes ☐ No ☐

Cartridges:Yes ☐ No ☐

11. How often are you expected to use the respirator(s)?

Escape only (no rescue):Yes ☐ No ☐

Emergency rescue only:Yes ☐ No ☐

Less than 5 hours per week:Yes ☐ No ☐

Less than 2 hours per day:Yes ☐ No ☐

2 to 4 hours per day:Yes ☐ No ☐

Over 4 hours per day:Yes ☐ No ☐

12. During the period you are using the respirator(s), is your work effort:

Light (less than 200 kcal per hour): Yes ☐ No ☐

If "yes," how long does this period last during the average shift: _____ hrs. ____ mins.

Examples of a light work effort are sitting while writing, typing, drafting, or performing light assembly work; or standing while operating a drill press (1-3 lbs.) or controlling machines.

Moderate (200 to 350 kcal per hour): Yes ☐ No ☐

If "yes," how long does this period last during the average shift: _____ hrs. ____ mins.

Examples of moderate work effort are sitting while nailing or filing; driving a truck or bus in urban traffic; standing while drilling, nailing, performing assembly work, or transferring a moderate load (about 35 lbs.) at trunk level; walking on a level surface about 2 mph or down a 5-degree grade about 3 mph; or pushing a wheelbarrow with a heavy load (about 100 lbs.) on a level surface.

Heavy (above 350 kcal per hour): Yes ☐ No ☐

If "yes," how long does this period last during the average shift: _____ hrs. ____ mins.

Examples of heavy work are lifting a heavy load (about 50 lbs.) from the floor to your waist or shoulder; working on a loading dock; shoveling; standing while bricklaying or chipping castings; walking up an 8-degree grade about 2 mph; climbing stairs with a heavy load (about 50 lbs.).

13. Will you wear protective clothing and/or equipment (other than the respirator) when you're using your respirator?

Yes ☐ No ☐

If "yes," describe this protective clothing and/or equipment: _____

14. Will you work under hot conditions (temperature exceeding 77 deg. F)?

Yes ☐ No ☐

15. Will you work under humid conditions?

Yes ☐ No ☐

16. Describe the work you do while you're using your respirator(s): _____

17. Describe any special or hazardous conditions you might encounter when you're using your respirator(s)

(for example, confined spaces, life-threatening gases): _____

18. Provide the following information, if you know it, for each toxic substance that you are exposed to when you are using your respirator(s):

Name of the first toxic substance: _____

Estimated maximum exposure level per shift: _____

Duration of exposure per shift: _____

Name of the second toxic substance: _____

Estimated maximum exposure level per shift: _____

Duration of exposure per shift: _____

Name of the first toxic substance: _____

Estimated maximum exposure level per shift: _____

Duration of exposure per shift: _____

The name of any other toxic substances that you are exposed to while using your respirator: _____

19. Describe any special responsibilities you'll have while using your respirator(s) that may affect the safety and well-being of others (for example, rescue, security): _____

Appendix C – Fit Testing Document Form

OSHA-Accepted Fit Test Protocols

Fit Testing Procedures – General Requirements

The employer will conduct fit testing using the following procedures. The requirements in this appendix apply to all OSHA-accepted fit test methods, both QLFT and QNFT.

1. Allow the employee to pick the most acceptable respirator from a sufficient number of respirator models and sizes so that the respirator is acceptable to, and correctly fits, the user.
2. Prior to the selection process, show the employee how to put on a respirator, how it is positioned on the face, how to set strap tension and how to determine an acceptable fit. Provide a mirror to assist the employee in evaluating the fit and positioning of the respirator. This instruction may not constitute the employee's formal training on respirator use, because it is only a review.
3. Inform the employee that he/she is being asked to select the respirator that provides the most acceptable fit. Each respirator represents a different size and shape, and if fitted and used properly, will provide adequate protection.
4. Instruct each employee to hold each chosen facepiece up to the face and eliminate those that obviously do not give an acceptable fit.
5. The more acceptable facepieces are noted in case the one selected proves unacceptable; the most comfortable mask is donned and worn at least five minutes to assess comfort. Assistance in assessing comfort is given by discussing the points in the following item A.6. If the employee is not familiar with using a particular respirator, direct the employee to don the mask several times and to adjust the straps each time to become adept at setting proper tension on the straps.
6. Assessment of comfort will include a review of the following points with the employee and allowing the employee adequate time to determine the comfort of the respirator:
 - 6.(a) Position of the mask on the nose
 - 6.(b) Room for eye protection
 - 6.(c) Room to talk
 - 6.(d) Position of mask on face and cheeks
7. Use the following criteria to help determine the adequacy of the respirator fit:
 - 6.(a) Chin properly placed;
 - 6.(b) Adequate strap tension, not overly tightened;
 - 6.(c) Fit across nose bridge;
 - 6.(d) Respirator of proper size to span distance from nose to chin;
 - 6.(e) Tendency of respirator to slip;
 - 6.(f) Self-observation in mirror to evaluate fit and respirator position.
8. The employee will conduct a user seal check, either the negative and positive pressure seal checks described in Appendix B-1 of this section or those recommended by the respirator manufacturer which provide equivalent protection to the procedures in Appendix B-1. Before conducting the negative and positive pressure checks, instruct the employee to seat the mask on the face by moving the head from side-to-side and up and down slowly while taking in a few slow deep breaths. Select another facepiece and retest if the employee fails the user seal check tests.
9. Do not conduct the test if there is any hair growth between the skin and the facepiece sealing surface, such as stubble beard growth, beard, mustache or sideburns which cross the respirator sealing surface. Remove or alter any type of apparel which interferes with a satisfactory fit.
10. If an employee exhibits difficulty in breathing during the tests, refer the employee to a physician or other licensed health care professional, as appropriate, to determine whether the employee can wear a respirator while performing her or his duties.
11. If the employee finds the fit of the respirator unacceptable, give the employee the opportunity to select a different respirator and to be retested.
12. Exercise regimen. Give the employee, prior to the commencement of the fit test, a description of the fit test and the employee's responsibilities during the test procedure. The description of the process will include a description of the test exercises that the employee will perform as part of the test. The employee must wear the respirator for at least 5 minutes before the start of the fit test.

13. Perform the fit test while the employee is wearing any applicable safety equipment that is worn during actual respirator use which could interfere with respirator fit.

14. Test Exercises.

(a) Perform the following test exercises for all fit testing methods prescribed in this appendix, except for the CNP method. A separate fit testing exercise regimen is contained in the CNP protocol. The employee will perform exercises, in the test environment, in the following manner:

- (1) **Normal breathing.** In a normal standing position, without talking, the employee will breathe normally.
- (2) **Deep breathing.** In a normal standing position, the employee will breathe slowly and deeply, taking caution so as not to hyperventilate.
- (3) **Turning head side to side.** Standing in place, the employee will slowly turn his/her head from side to side between the extreme positions on each side. Hold the head at each extreme momentarily so the employee can inhale at each side.
- (4) **Moving head up and down.** Standing in place, the employee will slowly move his/her head up and down. Instruct the employee to inhale in the up position (i.e., when looking toward the ceiling).
- (5) **Talking.** Request the employee to talk out loud slowly and loud enough so they are heard clearly by the test conductor. The employee can read from a prepared text such as the Rainbow Passage, count backward from 100, or recite a memorized poem or song.

Rainbow Passage

"When the sunlight strikes raindrops in the air, they act like a prism and form a rainbow. The rainbow is a division of white light into many beautiful colors. These take the shape of a long round arch, with its path high above, and its two ends apparently beyond the horizon. There is, according to legend, a boiling pot of gold at one end. People look, but no one ever finds it. When a man looks for something beyond reach, his friends say he is looking for the pot of gold at the end of the rainbow."

- (6) **Grimace.** Request the employee to grimace by smiling or frowning. (This applies only to QNFT testing; it is not performed for QLFT)
 - (7) **Bending over.** Request the employee to bend at the waist as if he/she were to touch his/her toes. Substitute jogging in place for this exercise in those test environments such as shroud type QNFT or QLFT units that do not permit bending over at the waist.
 - (8) **Normal breathing.** Same as exercise (1).
- (b) Perform each test exercise for one minute except for the grimace exercise which is performed for 15 seconds. The test conductor will ask the employee about the comfort of the respirator after completion of the protocol. Ask the employee to try another model respirator if it the test model is uncomfortable. Do not adjust the respirator once the fit test exercises begin. Any adjustment voids the test, and requires a repeat fit test.

Employee Name: _____ Date: 1/10/2018

Respirator Information

Brand: _____ Style: _____

Model Number: _____ Size: _____

User Seal Check: Positive Pressure Pass ☐ Fail ☐

 Negative Pressure Pass ☐ Fail ☐

QUALITATIVE FIT TEST:

Type/Brand: _____

Expiration Date: _____

Batch Number or other tracking number mfg.: _____

Pass ☐ Fail ☐

QUANTITATIVE FIT TEST:

Brand/Model: _____

Serial Number: _____ Calibration Date: _____

Fit Factor: _____ Pass ☐ Fail ☐

Appendix D – Voluntary Use of Respirators

Appendix D to Sec. 1910.134 (Mandatory) Information for Employees Using Respirators When Not Required Under the Standard

Respirators are an effective method of protection against designated hazards when properly selected and worn. Respirator use is encouraged, even when exposures are below the exposure limit, to provide an additional level of comfort and protection for workers. However, if a respirator is used improperly or not kept clean, the respirator itself can become a hazard to the worker. Sometimes, workers may wear respirators to avoid exposures to hazards, even if the amount of hazardous substance does not exceed the limits set by OSHA standards. If your employer provides respirators for your voluntary use, or if you provide your own respirator, you need to take certain precautions to insure that the respirator itself does not present a hazard.

You should do the following:

1. Read and heed all instructions provided by the manufacturer on use, maintenance, cleaning and care, and warnings regarding the respirators limitations.
2. Choose respirators certified for use to protect against the contaminant of concern. NIOSH, the National Institute for Occupational Safety and Health of the U.S. Department of Health and Human Services, certifies respirators. A label or statement of certification should appear on the respirator or respirator packaging. It will tell you what the respirator is designed for and how much it will protect you.
3. Do not wear your respirator into atmospheres containing contaminants for which your respirator is not designed to protect against. For example, a respirator designed to filter dust particles will not protect you against gases, vapors, or very small solid particles of fumes or smoke.
4. Keep track of your respirator so that you do not mistakenly use someone else's respirator.

Appendix E – Respirator Inspection Checklist

Evolution Maintenance 2018 Safety Plan with 2021 & 2024 Supplement

Type of Respirator: _____ Location: _____

Respirator Issued to: _____ Type of Hazard: _____

| | | |
|-------------------------------|-------|-------------------------------------|
| Face Piece | _____ | Cracks, tears, or holes |
| | _____ | Face mask distortion |
| | _____ | Cracked or loose lenses/face shield |
| Head Straps | _____ | Breaks or tears |
| | _____ | Broken buckles |
| Valves | _____ | Residue or dirt |
| | _____ | Cracks or tears in valve material |
| Filters/Cartridges | _____ | Approval designation |
| | _____ | Gaskets |
| | _____ | Cracks or dents in housing |
| | _____ | Proper cartridge for hazard |
| Air Supply Systems | _____ | Breathing air quality/grade |
| | _____ | Condition of supply hoses |
| | _____ | Hose connections |
| | _____ | Settings on regulators and valves |
| Rubber/Elastomer Parts | _____ | Pliability |
| | _____ | Deterioration |

Inspected by: _____ Date: _____

Action Taken: _____

Hazard Assessment Checklist

SELF-INSPECTION

The most widely accepted way to identify hazards is to conduct safety and health inspections because the only way to be certain of an actual situation is to look at it directly from time to time.

Begin a program of self-inspection in your own workplace. Self-inspection is essential if you are to know where probable hazards exist and whether they are under control.

This section includes checklists designed to assist you in self inspection fact-finding. The checklists can give you some indication of where to begin taking action to make your business safer and more healthful for all of your employees.

These checklists are by no means all-inclusive and not all of the checklists will apply to your business. You may want to start by selecting the areas that are most critical to your business, then expand your self-inspection checklists over time to fully cover all areas that pertain to your business. Remember that a checklist is a tool to help, not a definitive statement of what is mandatory. Use checklists for guidance only.

Don't spend time with items that have no application to your business. Make sure that each item is seen by you or your designee and leave nothing to memory or chance. Write down what you see or don't see and what you think you should do about it.

Add information from your completed checklists to injury information, employee information, and process and equipment information to build a foundation to help you determine what problems exist. Then, as you use the OSHA standards in your problem-solving process, it will be easier for you to determine the actions needed to solve these problems.

Once the hazards have been identified, institute hazard prevention and control procedures as described in the OSHA Small Business Handbook. The OSHA Small Business Handbook can be located on OSHA's website using the following link:

<https://www.osha.gov/Publications/smallbusiness/smallbusiness.html>

Self-Inspection Scope

Your self-inspections should cover safety and health issues in the following areas:

Building and Grounds Conditions – floors, walls, ceilings, exits, stairs, walkways, ramps, platforms, driveways and aisles

Chemicals – storage, handling, transportation, spills, disposals, amounts used, labeling, toxicity or other harmful effects, warning signs, supervision, training, protective clothing and equipment, hazard communication requirements

Electricity – equipment, switches, breakers, fuses, switchboxes, junctions, special fixtures, circuits, insulation, extensions, tools, motors, grounding, and national electric code compliance

Evacuation Plan – establish and practice procedures for an emergency evacuation, e.g., fire, chemical/biological incidents, bomb threat; include escape procedures and routes, critical plant operations, employee accounting following an evacuation, rescue and medical duties, and ways to report emergencies

Fire Prevention – extinguishers, alarms, sprinklers, smoking rules, exits, personnel assigned, separation of flammable materials and dangerous operations, explosion-proof fixtures in hazardous locations, waste disposal and training of personnel

First Aid Program/Supplies – medical care facilities locations, posted emergency phone numbers, accessible first aid kits

Hand and Power Tools – purchasing standards, inspection, storage, repair, types, maintenance, grounding and use and handling

Heating and Ventilation – type, effectiveness, temperature, humidity, controls, natural and artificial ventilation and exhausting

Housekeeping Program – waste disposal, tools, objects, materials, leakage and spillage, cleaning methods, schedules, work areas, remote areas and storage areas

Lighting – type, intensity, controls, conditions, diffusion, location, and glare and shadow control

Machinery – points of operation, flywheels, gears, shafts, pulleys, key ways, belts, couplings, sprockets, chains, frames, controls, lighting for tools and equipment, brakes, exhausting, feeding, oiling, adjusting, maintenance, lockout/tagout, grounding, work space, location and purchasing standards

Maintenance – provide regular and preventive maintenance on all equipment used at the worksite, recording all work performed on the machinery and by training personnel on the proper care and servicing of the equipment

Personal Protective Equipment (PPE) – type, size, maintenance, repair, age, storage, assignment of responsibility, purchasing methods, standards observed, training in care and use, rules of use, method of assignment

Personnel – training (including hazard identification training), experience; methods of checking machines before use; type of clothing; PPE; use of guards; tool storage; work practices; and methods for cleaning, oiling, or adjusting machinery

Processing, Receiving, Shipping and Storage – equipment, job planning, layout, heights, floor loads, projection of materials, material handling and storage methods, and training for material handling equipment

Transportation – motor vehicle safety, seat belts, vehicle maintenance, safe driver programs

Self-Inspection Checklists

These checklists are by no means all-inclusive. You should add to them or delete items that do not apply to your business; however, carefully consider each item and then make your decision. You should refer to federal and state-specific OSHA standards and requirements for specific guidance that may apply to your work situation. (Note: These checklists are typical for general industry but not for construction or maritime industries.)

EMPLOYER POSTING

- ☐ Is the required OSHA Job Safety and Health Protection Poster displayed in a prominent location where all employees are likely to see it?
- ☐ Are emergency telephone numbers posted where they can be readily found in case of emergency?
- ☐ Where employees may be exposed to toxic substances or harmful physical agents, has appropriate information concerning employee access to medical and exposure records and Safety Data Sheets (SDSs) been posted or otherwise made readily available to affected employees?
- ☐ Are signs concerning exit routes, room capacities, floor loading, biohazards, exposures to xray, microwave or other harmful radiation or substances posted where appropriate?
- ☐ Is the Summary of Work-Related Injuries and Illnesses (OSHA Form 300A) posted during the months of February, March and April?
- ☐ For California, are the Operating Rules for Industrial Trucks posted?

RECORDKEEPING

- ☐ Are occupational injuries or illnesses, except minor injuries requiring only first aid, recorded as required on the OSHA 300 log?
- ☐ Are employee medical records and records of employee exposure to hazardous substances or harmful physical agents up-to-date and in compliance with current OSHA standards?
- ☐ Are employee training records kept and accessible for review by employees, as required by OSHA standards?
- ☐ Have arrangements been made to retain records for the time period required for each specific type of record? (Some records must be maintained for at least 40 years.)
- ☐ Are operating permits and records up-to-date for items such as elevators, air pressure tanks, liquefied petroleum gas tanks, etc.?

SAFETY AND HEALTH PROGRAM

- ☐ Do you have an active safety and health program in operation that includes general safety and health program elements as well as the management of hazards specific to your worksite?
- ☐ Is one person clearly responsible for the safety and health program?
- ☐ Do you have a safety committee or group made up of management and labor representatives that meets regularly and reports in writing on its activities?
- ☐ Do you have a working procedure to handle in-house employee complaints regarding safety and health?
- ☐ Are your employees advised of efforts and accomplishments of the safety and health program made to ensure they will have a workplace that is safe and healthful?

MEDICAL SERVICES AND FIRST AID

- ☐ Is there a hospital, clinic or infirmary for medical care near your workplace or is at least one employee on each shift currently qualified to render first aid?
- ☐ Have all employees who are expected to respond to medical emergencies as part of their job responsibilities received first aid training; had hepatitis B vaccination made available to them; had appropriate training on procedures to protect them from bloodborne pathogens, including universal precautions; and have available and understand how to use appropriate PPE to protect against exposure to bloodborne diseases?*
- ☐ If employees have had an exposure incident involving bloodborne pathogens, was an immediate post-exposure medical evaluation and follow-up provided?
- ☐ Are medical personnel readily available for advice and consultation on matters of employees' health?

- ☐ Are emergency phone numbers posted?
- ☐ Are fully supplied first aid kits easily accessible to each work area, periodically inspected and replenished as needed?
- ☐ Have first aid kits and supplies been approved by a physician, indicating that they are adequate for a particular area or operation?
- ☐ Is there an eyewash station, sink or emergency shower available for quick drenching or flushing of the eyes and body in areas where corrosive liquids or materials are handled?

**Pursuant to an OSHA memorandum of July 1, 1992 employees who render first aid only as a collateral duty do not have to be offered pre-exposure hepatitis B vaccine only if the employer includes and implements the following requirements in his/her exposure control plan: (1) the employer must record all first aid incidents involving the presence of blood or other potentially infectious materials before the end of the work shift during which the first aid incident occurred; (2) the employer must comply with post-exposure evaluation, prophylaxis and follow-up requirements of the Bloodborne Pathogens standard with respect to "exposure incidents," as defined by the standard; (3) the employer must train designated first aid providers about the reporting procedure; (4) the employer must offer to initiate the hepatitis B vaccination series within 24 hours to all unvaccinated first aid providers who have rendered assistance in any situation involving the presence of blood or other potentially infectious materials.*

FIRE PROTECTION

- ☐ Is your local fire department familiar with your facility, its location and specific hazards?
- ☐ If you have a fire alarm system, is it certified as required and tested annually?
- ☐ If you have interior standpipes and valves, are they inspected regularly?
- ☐ If you have outside private fire hydrants, are they flushed at least once a year and on a routine preventive maintenance schedule?
- ☐ Are fire doors and shutters in good operating condition?
- ☐ Are fire doors and shutters unobstructed and protected against obstructions, including their counterweights?
- ☐ Are fire doors' and shutters' fusible links in place?
- ☐ Are automatic sprinkler system water control valves, air and water pressure checked periodically as required?
- ☐ Is the maintenance of automatic sprinkler systems assigned to responsible persons or to a sprinkler contractor?
- ☐ Are sprinkler heads protected by metal guards if exposed to potential physical damage?
- ☐ Is proper clearance maintained below sprinkler heads?
- ☐ Are portable fire extinguishers provided in adequate number and type and mounted in readily accessible locations?
- ☐ Are fire extinguishers recharged regularly with this noted on the inspection tag?
- ☐ Are employees periodically instructed in the use of fire extinguishers and fire protection procedures?

PERSONAL PROTECTIVE EQUIPMENT (PPE) AND CLOTHING

- ☐ Has the employer determined whether hazards that require the use of PPE (e.g., head, eye, face, hand or foot protection) are present or are likely to be present?
- ☐ If hazards or the likelihood of hazards are found, are employers selecting appropriate and properly fitted PPE suitable for protection from these hazards and ensuring that affected employees use it?
- ☐ Have both the employer and the employees been trained on PPE procedures, i.e., what PPE is necessary for job tasks, when workers need it, and how to properly wear and adjust it?
- ☐ Are protective goggles or face shields provided and worn where there is any danger of flying particles or corrosive materials?
- ☐ Are approved safety glasses required to be worn at all times in areas where there is a risk of eye injuries such as punctures, abrasions, contusions or burns?
- ☐ Are employees who wear corrective lenses (glasses or contacts) in workplaces with harmful exposures required to wear only approved safety glasses, protective goggles or use other medically approved precautionary procedures?
- ☐ Are protective gloves, aprons, shields or other means provided and required where employees could be cut or where there is reasonably anticipated exposure to corrosive liquids, chemicals, blood or other potentially infectious materials? See the OSHA Bloodborne Pathogens standard, 29 CFR 1910.1030(b), for the definition of "other potentially infectious materials."

PERSONAL PROTECTIVE EQUIPMENT (PPE) AND CLOTHING
–(continued)

- ☐ Are hard hats required, provided and worn where danger of falling objects exists?
- ☐ Are hard hats periodically inspected for damage to the shell and suspension system?
- ☐ Is appropriate foot protection required where there is the risk of foot injuries from hot, corrosive or poisonous substances, falling objects, crushing or penetrating actions?
- ☐ Are approved respirators provided when needed? (See 29 CFR 1910.134 for detailed information on respirators or check OSHA's website at www.osha.gov).
- ☐ Is all PPE maintained in a sanitary condition and ready for use?
- ☐ Are foods or beverages consumed only in areas where there is no exposure to toxic material, blood or other potentially infectious materials?
- ☐ Is protection against the effects of occupational noise provided when sound levels exceed those of the OSHA Noise standard?
- ☐ Are adequate work procedures, PPE and other equipment provided and used when cleaning up spilled hazardous materials?
- ☐ Are appropriate procedures in place to dispose of or decontaminate PPE contaminated with, or reasonably anticipated to be contaminated with, blood or other potentially infectious materials?

GENERAL WORK ENVIRONMENT

- ☐ Are all worksites clean, sanitary and orderly?
- ☐ Are work surfaces kept dry and appropriate means taken to assure the surfaces are slip resistant?
- ☐ Are all spilled hazardous materials or liquids, including blood and other potentially infectious materials, cleaned up immediately and according to proper procedures?
- ☐ Is combustible scrap, debris and waste stored safely?
- ☐ Is all regulated waste, as defined in the OSHA Bloodborne Pathogens standard (29 CFR 1910.1030), discarded according to federal, state and local regulations?
- ☐ Are accumulations of combustible dust routinely removed from elevated surfaces including the overhead structure of buildings, etc.?
- ☐ Is combustible dust cleaned up with an explosion-proof vacuum system to prevent suspension of dust particles in the environment?
- ☐ Is metallic or conductive dust prevented from entering or accumulating on or around electrical enclosures or equipment?
- ☐ Are covered metal waste cans used for oily or paint-soaked waste?
- ☐ Are all oil and gas-fired devices equipped with flame failure controls to prevent flow of fuel if pilots or main burners are not working?
- ☐ Are paint spray booths, dip tanks, etc., cleaned regularly?
- ☐ Are the minimum number of toilets and washing facilities provided and maintained in a clean and sanitary fashion?
- ☐ Are all work areas adequately illuminated?
- ☐ Are pits and floor openings covered or otherwise guarded?
- ☐ Have all confined spaces been evaluated for compliance with 29 CFR 1910.146? (Permit-required confined spaces.)

WALKWAYS

- ☐ Are aisles and passageways kept clear and marked as appropriate?
- ☐ Are wet surfaces covered with non-slip materials?
- ☐ Are holes in the floor, sidewalk or other walking surface repaired properly, covered or otherwise made safe?
- ☐ Is there safe clearance for walking in aisles where motorized or mechanical handling equipment is operating?
- ☐ Are materials or equipment stored in such a way that sharp projections will not interfere with the walkway?
- ☐ Are spilled materials cleaned up immediately?
- ☐ Are changes of direction or elevations readily identifiable?
- ☐ Are aisles or walkways that pass near moving or operating machinery, welding operations or similar operations arranged so employees will not be subjected to potential hazards?
- ☐ Is adequate headroom provided for the entire length of any aisle or walkway?
- ☐ Are standard guardrails provided wherever aisle or walkway surfaces are elevated more than 30 inches (76.20 centimeters) above any adjacent floor or the ground?
- ☐ Are bridges provided over conveyors and similar hazards?

FLOOR AND WALL OPENINGS

- ☐ Are floor openings guarded by a cover, a guardrail or equivalent on all sides (except at stairways or ladder entrances)?
- ☐ Are toeboards installed around the edges of permanent floor openings where persons may pass below the opening?
- ☐ Are skylight screens able to withstand a load of at least 200 pounds (90.7 kilograms)?
- ☐ Is the glass in windows, doors, glass walls, etc., subject to possible human impact, of sufficient thickness and type for the condition of use?
- ☐ Are grates or similar type covers over floor openings such as floor drains designed to allow unimpeded foot traffic or rolling equipment?
- ☐ Are unused portions of service pits and pits not in use either covered or protected by guardrails or equivalent?
- ☐ Are manhole covers, trench covers and similar covers, and their supports designed to carry a truck rear axle load of at least 20,000 pounds (9,072 kilograms) when located in roadways and subject to vehicle traffic?
- ☐ Are floor or wall openings in fire-resistant construction provided with doors or covers compatible with the fire rating of the structure and provided with a self-closing feature when appropriate?

STAIRS AND STAIRWAYS

- ☐ Do standard stair rails or handrails on all stairways have at least four risers?
- ☐ Are all stairways at least 22 inches (55.88 centimeters) wide?
- ☐ Do stairs have at least a seven-inch overhead clearance? In California, at least six-foot, six-inch overhead clearance?
- ☐ Do stairs have landing platforms not less than 30 inches (76.20 centimeters) in the direction of travel and extend 22 inches (55.88 centimeters) in width at every 12 feet (3.6576 meters) or less of vertical rise?
- ☐ Do stairs angle no more than 50 and no less than 30 degrees?
- ☐ Are stairs of hollow-pan type treads and landings filled to the top edge of the pan with solid material?
- ☐ Are step risers on stairs uniform from top to bottom with no riser spacing greater than seven and one-half inches?
- ☐ Are steps slip-resistant?
- ☐ Are stairway handrails located between 30 inches (76.20 centimeters) and 34 inches (86.36 centimeters) above the leading edge of stair treads?
- ☐ Do stairway handrails have at least three inches of clearance between the handrails and the wall or surface they are mounted on? In California, is clearance at least one and one-half inches between the handrails and the wall or surface they are mounted on?
- ☐ Where doors or gates open directly on a stairway, is a platform provided so the swing of the door does not reduce the width of the platform to less than 21 inches (53.34 centimeters)?
- ☐ Are stairway handrails capable of withstanding a load of 200 pounds (90.7 kilograms), applied within two inches (5.08 centimeters) of the top edge in any downward or outward direction?
- ☐ Where stairs or stairways exit directly into any area where vehicles may be operated, are adequate barriers and warnings provided to prevent employees from stepping into the path of traffic?
- ☐ Do stairway landings have a dimension measured in the direction of travel at least equal to the width of the stairway?
- ☐ Is the vertical distance between stairway landings limited to 12 feet (3.6576 meters) or less?

ELEVATED SURFACES

- ☐ Are signs posted, when appropriate, showing the elevated surface load capacity?
- ☐ Are surfaces that are elevated more than 30 inches (76.20 centimeters) provided with standard guardrails?
- ☐ Are all elevated surfaces beneath which people or machinery could be exposed to falling objects provided with standard four-inch (10.16- centimeter) toeboards?
- ☐ Is a permanent means of access and egress provided to elevated storage and work surfaces?
- ☐ Is required headroom provided where necessary?
- ☐ Is material on elevated surfaces piled, stacked or racked in a manner to prevent it from tipping, falling, collapsing, rolling or spreading?
- ☐ Are dock boards or bridge plates used when transferring materials between docks and trucks or railcars?

EXITING OR EGRESS - EVACUATION

- ☐ Are all exits marked with an exit sign and illuminated by a reliable light source?
- ☐ Are the directions to exits, when not immediately apparent, marked with visible signs?
- ☐ Are doors, passageways or stairways that are neither exits nor access to exits, but could be mistaken for exits, appropriately marked "NOT AN EXIT," "TO BASEMENT," "STOREROOM," etc.?
- ☐ Are exit signs labeled with the word "EXIT" in lettering at least five inches (12.70 centimeters) high and the stroke of the lettering at least 1/2- inch (1.2700 centimeters) wide?
- ☐ Are exit doors side-hinged?
- ☐ Are all exits kept free of obstructions?
- ☐ Are at least two means of egress provided from elevated platforms, pits or rooms where the absence of a second exit would increase the risk of injury from hot, poisonous, corrosive, suffocating, flammable or explosive substances?
- ☐ Are there sufficient exits to permit prompt escape in case of emergency?
- ☐ Are special precautions taken to protect employees during construction and repair operations?
- ☐ Is the number of exits from each floor of a building and the number of exits from the building itself appropriate for the building occupancy load?
- ☐ Are exit stairways that are required to be separated from other parts of a building enclosed by at least two-hour fire-resistive construction in buildings more than four stories in height, and not less than one-hour fire-resistive construction elsewhere?
- ☐ Where ramps are used as part of required exiting from a building, is the ramp slope limited to one foot (0.3048 meter) vertical and 12 feet (3.6576 meters) horizontal?

- ☐ Where exiting will be through frameless glass doors, glass exit doors, storm doors, etc., are the doors fully tempered and meet the safety requirements for human impact?

EXIT DOORS

- ☐ Are doors that are required to serve as exits designed and constructed so that the path of exit travel is obvious and direct?
- ☐ Are windows that could be mistaken for exit doors made inaccessible by means of barriers or railings?
- ☐ Are exit doors able to be opened from the direction of exit travel without the use of a key or any special knowledge or effort when the building is occupied?
- ☐ Is a revolving, sliding or overhead door prohibited from serving as a required exit door?
- ☐ Where panic hardware is installed on a required exit door, will it allow the door to open by applying a force of 15 pounds (6.80 kilograms) or less in the direction of the exit traffic?
- ☐ Are doors on cold storage rooms provided with an inside release mechanism that will release the latch and open the door even if the door is padlocked or otherwise locked on the outside?
- ☐ Where exit doors open directly onto any street, alley or other area where vehicles may be operated, are adequate barriers and warnings provided to prevent employees from stepping into the path of traffic?
- ☐ Are doors that swing in both directions and are located between rooms where there is frequent traffic provided with viewing panels in each door?

HAND TOOLS AND EQUIPMENT

- ☐ Are all tools and equipment (both company and employee owned) used at the workplace in good condition?
- ☐ Are hand tools, such as chisels, punches, etc., which develop mushroomed heads during use, reconditioned or replaced as necessary?
- ☐ Are broken or fractured handles on hammers, axes and similar equipment replaced promptly?
- ☐ Are worn or bent wrenches replaced?
- ☐ Are appropriate handles used on files and similar tools?
- ☐ Are employees aware of hazards caused by faulty or improperly used hand tools?
- ☐ Are appropriate safety glasses, face shields, etc., used while using hand tools or equipment that might produce flying materials or be subject to breakage?
- ☐ Are jacks checked periodically to ensure they are in good operating condition?
- ☐ Are tool handles wedged tightly into the heads of all tools?
- ☐ Are tool cutting edges kept sharp so the tool will move smoothly without binding or skipping?
- ☐ Are tools stored in a dry, secure location where they cannot be tampered with?
- ☐ Is eye and face protection used when driving hardened or tempered studs or nails?

PORTABLE LADDERS

- ☐ Are all ladders maintained in good condition, joints between steps and side rails tight, all hardware and fittings securely attached, and moveable parts operating freely without binding or undue play?
- ☐ Are non-slip safety feet provided on each metal or rung ladder, and are ladder rungs and steps free of grease and oil?
- ☐ Are employees prohibited from placing a ladder in front

of doors opening toward the ladder unless the door is blocked open, locked or guarded?

- ☐ Are employees prohibited from placing ladders on boxes, barrels or other unstable bases to obtain additional height?
- ☐ Are employees required to face the ladder when ascending or descending?
- ☐ Are employees prohibited from using ladders that are broken, have missing steps, rungs or cleats, broken side rails or other faulty equipment?
- ☐ Are employees instructed not to use the top two steps of ordinary stepladders as a step?
- ☐ When portable rung ladders are used to gain access to elevated platforms, roofs, etc., does the ladder always extend at least three feet (0.9144 meters) above the elevated surface?
- ☐ Are employees required to secure the base of a portable rung or cleat type ladder to prevent slipping or otherwise lash or hold it in place?
- ☐ Are portable metal ladders legibly marked with signs reading "CAUTION - Do Not Use Around Electrical Equipment" or equivalent wording?
- ☐ Are employees prohibited from using ladders as guys, braces, skids, gin poles or for other than their intended purposes?
- ☐ Are employees instructed to only adjust extension ladders while standing at a base (not while standing on the ladder or from a position above the ladder)?
- ☐ Are metal ladders inspected for damage?
- ☐ Are the rungs of ladders uniformly spaced at 12 inches (30.48 centimeters) center to center?

PORTABLE (POWER OPERATED) TOOLS AND EQUIPMENT

- ☐ Are grinders, saws and similar equipment provided with appropriate safety guards?
- ☐ Are power tools used with proper shields, guards or attachments, as recommended by the manufacturer?
- ☐ Are portable circular saws equipped with guards above and below the base shoe?
- ☐ Are circular saw guards checked to ensure that they are not wedged up, leaving the lower portion of the blade unguarded?
- ☐ Are rotating or moving parts of equipment guarded to prevent physical contact?
- ☐ Are all cord-connected, electrically operated tools and equipment effectively grounded or of the approved double insulated type?
- ☐ Are effective guards in place over belts, pulleys, chains and sprockets on equipment such as concrete mixers, air compressors, etc.?
- ☐ Are portable fans provided with full guards or screens having openings one-half inch (1.2700 centimeters) or less?
- ☐ Is hoisting equipment available and used for lifting heavy objects, and are hoist ratings and characteristics appropriate for the task?
- ☐ Are ground-fault circuit interrupters provided on all temporary electrical 15 and 20 ampere circuits used during periods of construction?
- ☐ Are pneumatic and hydraulic hoses on power operated tools checked regularly for deterioration or damage?

ABRASIVE WHEEL EQUIPMENT GRINDERS

- ☐ Is the work rest used and kept adjusted to within one-eighth inch (0.3175 centimeter) of the wheel?
- ☐ Is the adjustable tongue on the top side of the grinder used and kept adjusted to within one-fourth inch (0.6350 centimeters) of the wheel?
- ☐ Do side guards cover the spindle, nut and flange and 75 percent of the wheel diameter?
- ☐ Are bench and pedestal grinders permanently mounted?
- ☐ Are goggles or face shields always worn when grinding?
- ☐ Is the maximum revolutions per minute (rpm) rating of each abrasive wheel compatible with the rpm rating of the grinder motor?
- ☐ Are fixed or permanently mounted grinders connected to their electrical supply system with metallic conduit or other permanent wiring method?
- ☐ Does each grinder have an individual on and off control switch?
- ☐ Is each electrically operated grinder effectively grounded?
- ☐ Are new abrasive wheels visually inspected and ring tested before they are mounted?
- ☐ Are dust collectors and powered exhausts provided on grinders used in operations that produce large amounts of dust?
- ☐ Are splash guards mounted on grinders that use coolant to prevent the coolant from reaching employees?
- ☐ Is cleanliness maintained around grinders?

MACHINE GUARDING

- ☐ Is there a training program to instruct employees on safe methods of machine operation?
- ☐ Is there adequate supervision to ensure that employees are following safe machine operating procedures?
- ☐ Is there a regular program of safety inspection of machinery and equipment?
- ☐ Is all machinery and equipment kept clean and properly maintained?
- ☐ Is sufficient clearance provided around and between machines to allow for safe operations, set up and servicing, material handling and waste removal?
- ☐ Is equipment and machinery securely placed and anchored to prevent tipping or other movement that could result in personal injury?
- ☐ Is there a power shut-off switch within reach of the operator's position at each machine?
- ☐ Can electric power to each machine be locked out for maintenance, repair or security?
- ☐ Are the noncurrent-carrying metal parts of electrically operated machines bonded and grounded?
- ☐ Are foot-operated switches guarded or arranged to prevent accidental actuation by personnel or falling objects?
- ☐ Are manually operated valves and switches controlling the operation of equipment and machines clearly identified and readily accessible?
- ☐ Are all emergency stop buttons colored red?
- ☐ Are all pulleys and belts within seven feet (2.1336 meters) of the floor or working level properly guarded?
- ☐ Are all moving chains and gears properly guarded?
- ☐ Are splash guards mounted on machines that use coolant to prevent the coolant from reaching employees?
- ☐ Are methods provided to protect the operator and other employees in the machine area from hazards created at the point of operation, ingoing nip points, rotating parts, flying chips and sparks?
- ☐ Are machine guards secure and arranged so they do not cause a hazard while in use?
- ☐ If special hand tools are used for placing and removing material, do they protect the operator's hands?
- ☐ Are revolving drums, barrels and containers guarded by an enclosure that is interlocked with the drive mechanism so that revolution cannot occur unless the guard enclosure is in place?
- ☐ Do arbors and mandrels have firm and secure bearings, and are they free from play?
- ☐ Are provisions made to prevent machines from automatically starting when power is restored after a power failure or shutdown?
- ☐ Are machines constructed so as to be free from excessive vibration when the largest size tool is mounted and run at full speed?
- ☐ If machinery is cleaned with compressed air, is air pressure controlled and PPE or other safeguards utilized to protect operators and other workers from eye and body injury?
- ☐ Are fan blades protected with a guard having openings no larger than one-half inch (1.2700 centimeters) when operating within seven feet (2.1336 meters) of the floor?
- ☐ Are saws used for ripping equipped with ant kickback devices and spreaders?
- ☐ Are radial arm saws so arranged that the cutting head will gently return to the back of the table when released?

LOCKOUT/TAGOUT PROCEDURES

- ☐ Is all machinery or equipment capable of movement required to be de-energized or disengaged and blocked or locked out during cleaning, servicing, adjusting or setting up operations?
- ☐ If the power disconnect for equipment does not also disconnect the electrical control circuit, are the appropriate electrical enclosures identified and is a means provided to ensure that the control circuit can also be disconnected and locked out?
- ☐ Is the locking out of control circuits instead of locking out main power disconnects prohibited?
- ☐ Are all equipment control valve handles provided with a means for locking out?
- ☐ Does the lockout procedure require that stored energy (mechanical, hydraulic, air, etc.) be released or blocked before equipment is locked out for repairs?
- ☐ Are appropriate employees provided with individually keyed personal safety locks?
- ☐ Are employees required to keep personal control of their key(s) while they have safety locks in use?
- ☐ Is it required that only the employee exposed to the hazard can place or remove the safety lock?
- ☐ Is it required that employees check the safety of the lockout by attempting a startup after making sure no one is exposed?
- ☐ Are employees instructed to always push the control circuit stop button prior to re-energizing the main power switch?
- ☐ Is there a means provided to identify any or all employees who are working on locked-out equipment by their locks or accompanying tags?
- ☐ Are a sufficient number of accident prevention signs or tags and safety padlocks provided for any reasonably foreseeable repair emergency?
- ☐ When machine operations, configuration or size require an operator to leave the control station and part of the machine could move if accidentally activated, is the part required to be separately locked out or blocked?

WELDING, CUTTING AND BRAZING

- ☐ Are only authorized and trained personnel permitted to use welding, cutting or brazing equipment?
- ☐ Does each operator have a copy of and follow the appropriate operating instructions?
- ☐ Are compressed gas cylinders regularly examined for obvious signs of defects, deep rusting or leakage?
- ☐ Is care used in handling and storage of cylinders, safety valves, relief valves, etc., to prevent damage?
- ☐ Are precautions taken to prevent the mixture of air or oxygen with flammable gases, except at a burner or in a standard torch?
- ☐ Are only approved apparatuses (torches, regulators, pressure reducing valves, acetylene generators, manifolds) used?
- ☐ Are cylinders kept away from sources of heat and elevators, stairs or gangways?
- ☐ Is it prohibited to use cylinders as rollers or supports?
- ☐ Are empty cylinders appropriately marked and their valves closed?
- ☐ Are signs posted reading "DANGER, NO SMOKING, MATCHES OR OPEN LIGHTS," or the equivalent?
- ☐ Are cylinders, cylinder valves, couplings, regulators, hoses and apparatuses kept free of oily or greasy substances?
- ☐ Is care taken not to drop or strike cylinders?
- ☐ Are regulators removed and valve-protection caps put in place before moving cylinders, unless they are secured on special trucks?
- ☐ Do cylinders without fixed wheels have keys, handles or non-adjustable wrenches on stem valves when in service?
- ☐ Are liquefied gases stored and shipped valve-end up with valve covers in place?
- ☐ Are employees trained never to crack a fuel gas cylinder valve near sources of ignition?
- ☐ Before a regulator is removed, is the valve closed and gas released?
- ☐ Is red used to identify the acetylene (and other fuel-gas) hose, green for the oxygen hose and black for inert gas and air hoses?
- ☐ Are pressure-reducing regulators used only for the gas and pressures for which they are intended?
- ☐ Is open circuit (no-load) voltage of arc welding and cutting machines as low as possible and not in excess of the recommended limits?
- ☐ Under wet conditions, are automatic controls for reducing no-load voltage used?
- ☐ Is grounding of the machine frame and safety ground connections of portable machines checked periodically?
- ☐ Are electrodes removed from the holders when not in use?
- ☐ Is it required that electric power to the welder be shut off when no one is in attendance?
- ☐ Is suitable fire extinguishing equipment available for immediate use?
- ☐ Is the welder forbidden to coil or loop welding electrode cable around his body?
- ☐ Are wet machines thoroughly dried and tested before use?
- ☐ Are work and electrode lead cables frequently inspected for wear and damage, and replaced when needed?
- ☐ Are cable connectors adequately insulated?

WELDING, CUTTING AND BRAZING – (continued)

- ☐ When the object to be welded cannot be moved and fire hazards cannot be removed, are shields used to confine heat, sparks and slag?
- ☐ Are fire watchers assigned when welding or cutting is performed in locations where a serious fire might develop?
- ☐ Are combustible floors kept wet, covered with damp sand, or protected by fire-resistant shields?
- ☐ Are personnel protected from possible electrical shock when floors are wet?
- ☐ Are precautions taken to protect combustibles on the other side of metal walls when welding is underway?
- ☐ Are used drums, barrels, tanks and other containers thoroughly cleaned of substances that could explode, ignite or produce toxic vapors before hot work begins?
- ☐ Do eye protection, helmets, hand shields and goggles meet appropriate standards?
- ☐ Are employees exposed to the hazards created by welding, cutting or brazing operations protected with PPE and clothing?
- ☐ Is a check made for adequate ventilation in and where welding or cutting is performed?
- ☐ When working in confined places, are environmental monitoring tests done and means provided for quick removal of welders in case of an emergency?

COMPRESSORS AND COMPRESSED AIR

- ☐ Are compressors equipped with pressure relief valves and pressure gauges?
- ☐ Are compressor air intakes installed and equipped so as to ensure that only clean, uncontaminated air enters the compressor?
- ☐ Are air filters installed on the compressor intake?
- ☐ Are compressors operated and lubricated in accordance with the manufacturer's recommendations?
- ☐ Are safety devices on compressed air systems checked frequently?
- ☐ Before a compressor's pressure system is repaired, is the pressure bled off and the system locked out?
- ☐ Are signs posted to warn of the automatic starting feature of the compressors?
- ☐ Is the belt drive system totally enclosed to provide protection for the front, back, top and sides?
- ☐ Are employees strictly prohibited from directing compressed air towards a person?
- ☐ Are employees prohibited from using highly compressed air for cleaning purposes?
- ☐ When compressed air is used to clean clothing, are employees trained to reduce the pressure to less than 10 pounds per square inch (psi)?
- ☐ When using compressed air for cleaning, do employees wear protective chip guarding and PPE?
- ☐ Are safety chains or other suitable locking devices used at couplings of high-pressure hose lines where a connection failure would create a hazard?
- ☐ Before compressed air is used to empty containers of liquid, is the safe working pressure of the container checked?

COMPRESSORS AND COMPRESSED AIR - (continued)

- ☐ When compressed air is used with abrasive blast cleaning equipment, is the operating valve a type that must be held open manually?
- ☐ When compressed air is used to inflate auto tires, are a clip-on chuck and an inline regulator preset to 40 psi required?
- ☐ Are employees prohibited from using compressed air to clean up or move combustible dust if such action could cause the dust to be suspended in the air and cause a fire or explosion hazard?

COMPRESSORS/AIR RECEIVERS

- ☐ Is every receiver equipped with a pressure gauge and one or more automatic, spring-loaded safety valves?
- ☐ Is the total relieving capacity of the safety valve able to prevent pressure in the receiver from exceeding the maximum allowable working pressure of the receiver by more than 10 percent?
- ☐ Is every air receiver provided with a drain pipe and valve at the lowest point for the removal of accumulated oil and water?
- ☐ Are compressed air receivers periodically drained of moisture and oil?
- ☐ Are all safety valves tested at regular intervals to determine whether they are in good operating condition?
- ☐ Is there a current operating permit? If in California, is the permit issued by the Division of Occupational Safety and Health?
- ☐ Is the inlet of air receivers and piping systems kept free of accumulated oil and carbonaceous materials?

COMPRESSED GAS CYLINDERS

- ☐ Are cylinders with a water weight capacity over 30 pounds (13.6 kilograms) equipped with a means to connect a valve protector device, or with a collar or recess to protect the valve?
- ☐ Are cylinders legibly marked to clearly identify the type of gas?
- ☐ Are compressed gas cylinders stored in areas protected from external heat sources such as flame impingement, intense radiant heat, electric arcs or high-temperature lines?
- ☐ Are cylinders located or stored in areas where they will not be damaged by passing or falling objects or subject to tampering by unauthorized persons?
- ☐ Are cylinders stored or transported in a manner to prevent them from creating a hazard by tipping, falling or rolling?
- ☐ Are cylinders containing liquefied fuel gas stored or transported in a position so that the safety relief device is always in direct contact with the vapor space in the cylinder?
- ☐ Are valve protectors always placed on cylinders when the cylinders are not in use or connected for use?
- ☐ Are all valves closed off before a cylinder is moved, when the cylinder is empty and at the completion of each job?
- ☐ Are low-pressure fuel gas cylinders checked periodically for corrosion, general distortion, cracks or any other defect that might indicate a weakness or render them unfit for service?
- ☐ Does the periodic check of low-pressure fuel gas cylinders include a close inspection of the cylinders' bottoms?

HOIST AND AUXILIARY EQUIPMENT

- ☐ Is each overhead electric hoist equipped with a limit device to stop the hook at its highest and lowest point of safe travel?
- ☐ Will each hoist automatically stop and hold any load up to 125 percent of its rated load if its actuating force is removed?
- ☐ Is the rated load of each hoist legibly marked and visible to the operator?
- ☐ Are stops provided at the safe limits of travel for trolley hoists?
- ☐ Are the controls of hoists plainly marked to indicate the direction of travel or motion?
- ☐ Is each cage-controlled hoist equipped with an effective warning device?
- ☐ Are close-fitting guards or other suitable devices installed on each hoist to ensure that hoist ropes will be maintained in the sheave grooves?
- ☐ Are all hoist chains or ropes long enough to handle the full range of movement of the application while maintaining two full wraps around the drum at all times?
- ☐ Are guards provided for nip points or contact points between hoist ropes and sheaves permanently located within seven feet (2.1336 meters) of the floor, ground or working platform?
- ☐ Are employees prohibited from using chains or rope slings that are kinked or twisted and prohibited from using the hoist rope or chain wrapped around the load as a substitute for a sling?
- ☐ Is the operator instructed to avoid carrying loads above people?

POWER-ACTUATED TOOLS

- ☐ Are employees who operate powder-actuated tools trained in their use and required to carry a valid operator's card?
- ☐ Is each powder-actuated tool stored in its own locked container when not being used?
- ☐ Is a sign at least seven inches (17.78 centimeters) by 10 inches (25.40 centimeters) with bold face type reading "POWDER-ACTUATED TOOL IN USE" conspicuously posted when the tool is being used?
- ☐ Are powder-actuated tools left unloaded until they are ready to be used?
- ☐ Are powder-actuated tools inspected for obstructions or defects each day before use?
- ☐ Do powder-actuated tool operators have and use appropriate PPE such as hard hats, safety goggles, safety shoes and ear protectors?
- ☐ If in California, do the powder-actuated tools being used have written approval of the Division of Occupational Safety and Health?

INDUSTRIAL TRUCKS - FORKLIFTS

- ☐ Are employees properly trained in the use of the type of industrial truck they operate?
- ☐ Are only trained personnel allowed to operate industrial trucks?
- ☐ Is substantial overhead protective equipment provided on high lift rider equipment?
- ☐ Are the required lift truck operating rules posted and enforced?
- ☐ Is directional lighting provided on each industrial truck that operates in an area with less than two foot candles per square foot of general lighting?
- ☐ Does each industrial truck have a warning horn, whistle, gong or other device that can be clearly heard above normal noise in the areas where it is operated?
- ☐ Are the brakes on each industrial truck capable of bringing the vehicle to a complete and safe stop when fully loaded?
- ☐ Does the parking brake of the industrial truck prevent the vehicle from moving when unattended?
- ☐ Are industrial trucks that operate where flammable gases, vapors, combustible dust or ignitable fibers may be present approved for such locations?
- ☐ Are motorized hand and hand/rider trucks designed so that the brakes are applied and power to the drive motor shuts off when the operator releases his or her grip on the device that controls the truck's travel?
- ☐ Are industrial trucks with internal combustion engines that are operated in buildings or enclosed areas carefully checked to ensure that such operations do not cause harmful concentrations of dangerous gases or fumes?
- ☐ Are safe distances maintained from the edges of elevated ramps and platforms?
- ☐ Are employees prohibited from standing or passing under elevated portions of trucks, whether loaded or empty?
- ☐ Are unauthorized employees prohibited from riding on trucks?
- ☐ Are operators prohibited from driving up to anyone standing in front of a fixed object?
- ☐ Are arms and legs kept inside the running lines of the truck?
- ☐ Are loads handled only within the rated capacity of the truck?
- ☐ Are trucks in need of repair removed from service immediately?

SPRAYING OPERATIONS

- ☐ Is adequate ventilation provided before spraying operations are started?
- ☐ Is mechanical ventilation provided when spraying operations are performed in enclosed areas?
- ☐ When mechanical ventilation is provided during spraying operations, is it so arranged that it will not circulate the contaminated air?
- ☐ Is the spray area free of hot surfaces and at least 20 feet (6.096 meters) from flames, sparks, operating electrical motors and other ignition sources?
- ☐ Are portable lamps used to illuminate spray areas suitable for use in a hazardous location?
- ☐ Is approved respiratory equipment provided and used when appropriate during spraying operations?
- ☐ Do solvents used for cleaning have a flash point to 100 degrees Fahrenheit (deg. F) or more?
- ☐ Are fire control sprinkler heads kept clean?
- ☐ Are "NO SMOKING" signs posted in spray areas, paint rooms, paint booths and paint storage areas?
- ☐ Is the spray area kept clean of combustible residue?
- ☐ Are spray booths constructed of metal, masonry or other substantial noncombustible material?
- ☐ Are spray booth floors and baffles noncombustible and easily cleaned?
- ☐ Is infrared drying apparatus kept out of the spray area during spraying operations and is the spray booth completely ventilated before using the drying apparatus?
- ☐ Is the electric drying apparatus properly grounded?
- ☐ Are lighting fixtures for spray booths located outside the booth with the interior lighted through sealed clear panels?
- ☐ Are the electric motors for exhaust fans placed outside booths or ducts?
- ☐ Are belts and pulleys inside the booth fully enclosed?
- ☐ Do ducts have access doors to allow cleaning?

ENTERING CONFINED SPACES

- ☐ Are confined spaces thoroughly emptied of any corrosive or hazardous substances, such as acids or caustics, before entry?
- ☐ Are all lines to a confined space that contain inert, toxic, flammable or corrosive materials valved off and blanked or disconnected and separated before entry?
- ☐ Are all impellers, agitators or other moving parts and equipment inside confined spaces locked out if they present a hazard?
- ☐ Is either natural or mechanical ventilation provided prior to confined space entry?
- ☐ Are appropriate atmospheric tests performed to check for oxygen deficiency, toxic substances and explosive concentrations in the confined space before entry?
- ☐ Is adequate illumination provided for the work to be performed in the confined space?
- ☐ Is the atmosphere inside the confined space frequently tested or continuously monitored during work?
- ☐ Is there a trained and equipped standby employee positioned outside the confined space, whose sole responsibility is to watch the work in progress, sound an alarm if necessary and render assistance?
- ☐ Is the standby employee appropriately trained and equipped to handle an emergency?
- ☐ In addition to the standby employee, is there at least one other trained rescuer in the vicinity?

ENTERING CONFINED SPACES - (continued)

- ☐ Are all rescuers appropriately trained and using approved, recently inspected equipment?
- ☐ Does all rescue equipment allow for lifting employees vertically from a top opening?
- ☐ Are there trained personnel in first aid and CPR immediately available?
- ☐ Is there an effective communication system in place whenever respiratory equipment is used and the employee in confined space is out of sight of the standby person?
- ☐ Are employees prohibited from entering the confined space without lifelines and respiratory equipment if there is any question as to the cause of an emergency?
- ☐ Is approved respiratory equipment required if the atmosphere inside the confined space cannot be made acceptable?
- ☐ Is all portable electrical equipment used inside confined spaces either grounded and insulated or equipped with ground fault protection?
- ☐ Are compressed gas bottles forbidden inside the confined space?
- ☐ Before gas welding or burning is started in a confined space, are hoses checked for leaks, torches lighted only outside the confined area and the confined area tested for an explosive atmosphere each time before a lighted torch is taken into the confined space?
- ☐ If employees will be using oxygen-consuming equipment such as salamanders, torches, furnaces, etc., in a confined space, is sufficient air provided to assure combustion without reducing the oxygen concentration of the atmosphere below 19.5 percent by volume?
- ☐ Whenever combustion-type equipment is used in a confined space, are provisions made to ensure the exhaust gases are vented outside of the enclosure?
- ☐ Is each confined space checked for decaying vegetation or animal matter which may produce methane?
- ☐ Is the confined space checked for possible industrial waste which could contain toxic properties?
- ☐ If the confined space is below ground and near areas where motor vehicles will be operating, is it possible for vehicle exhaust or carbon monoxide to enter the space?

ENVIRONMENTAL CONTROLS

- ☐ Are all work areas properly illuminated?
- ☐ Are employees instructed in proper first aid and other emergency procedures?
- ☐ Are hazardous substances, blood and other potentially infectious materials, which may cause harm by inhalation, ingestion or skin absorption or contact, identified?
- ☐ Are employees aware of the hazards involved with the various chemicals they may be exposed to in their work environment, such as ammonia, chlorine, epoxies, caustics, etc.?
- ☐ Is employee exposure to chemicals in the workplace kept within acceptable levels?
- ☐ Can a less harmful method or product be used?
- ☐ Is the work area ventilation system appropriate for the work performed?
- ☐ Are spray painting operations performed in spray rooms or booths equipped with an appropriate exhaust system?
- ☐ Is employee exposure to welding fumes controlled by ventilation, use of respirators, exposure time limits or other means?
- ☐ Are welders and other nearby workers provided with flash shields during welding operations?
- ☐ If forklifts and other vehicles are used in buildings or other enclosed areas, are the carbon monoxide levels kept below maximum acceptable concentration?
- ☐ Has there been a determination that noise levels in the facilities are within acceptable levels?
- ☐ Are steps being taken to use engineering controls to reduce excessive noise levels?
- ☐ Are proper precautions being taken when handling asbestos and other fibrous materials?
- ☐ Are caution labels and signs used to warn of hazardous substances (e.g., asbestos) and biohazards (e.g., bloodborne pathogens)?
- ☐ Are wet methods used, when practicable, to prevent the emission of airborne asbestos fibers, silica dust and similar hazardous materials?
- ☐ Are engineering controls examined and maintained or replaced on a scheduled basis?
- ☐ Is vacuuming with appropriate equipment used whenever possible rather than blowing or sweeping dust?
- ☐ Are grinders, saws and other machines that produce respirable dusts vented to an industrial collector or central exhaust system?
- ☐ Are all local exhaust ventilation systems designed to provide sufficient air flow and volume for the application, and are ducts not plugged and belts not slipping?
- ☐ Is PPE provided, used and maintained wherever required?
- ☐ Are there written standard operating procedures for the selection and use of respirators where needed?
- ☐ Are restrooms and washrooms kept clean and sanitary?
- ☐ Is all water provided for drinking, washing and cooking potable?
- ☐ Are all outlets for water that is not suitable for drinking clearly identified?
- ☐ Are employees' physical capacities assessed before they are assigned to jobs requiring heavy work?
- ☐ Are employees instructed in the proper manner for lifting heavy objects?
- ☐ Where heat is a problem, have all fixed work areas been provided with spot cooling or air conditioning?
- ☐ Are employees screened before assignment to areas of high heat to determine if their health might make them more susceptible to having an adverse reaction?

ENVIRONMENTAL CONTROLS – (continued)

- ☐ Are employees working on streets and roadways who are exposed to the hazards of traffic required to wear bright colored (traffic orange) warning vests?
- ☐ Are exhaust stacks and air intakes located so that nearby contaminated air will not be recirculated within a building or other enclosed area?
- ☐ Is equipment producing ultraviolet radiation properly shielded?
- ☐ Are universal precautions observed where occupational exposure to blood or other potentially infectious materials can occur and in all instances where differentiation of types of body fluids or potentially infectious materials is difficult or impossible?

FLAMMABLE AND COMBUSTIBLE MATERIALS

- ☐ Are combustible scrap, debris and waste materials (oily rags, etc.) stored in covered metal receptacles and promptly removed from the worksite?
- ☐ Is proper storage practiced to minimize the risk of fire, including spontaneous combustion?
- ☐ Are approved containers and tanks used to store and handle flammable and combustible liquids?
- ☐ Are all connections on drums and combustible liquid piping, vapor and liquid tight?
- ☐ Are all flammable liquids kept in closed containers when not in use (e.g., parts cleaning tanks, pans, etc.)?
- ☐ Are bulk drums of flammable liquids grounded and bonded to containers during dispensing?
- ☐ Do storage rooms for flammable and combustible liquids have explosion-proof lights and mechanical or gravity ventilation?
- ☐ Is liquefied petroleum gas stored, handled and used in accordance with safe practices and standards?

- ☐ Are "NO SMOKING" signs posted on liquefied petroleum gas tanks and in areas where flammable or combustible materials are used or stored?
- ☐ Are liquefied petroleum storage tanks guarded to prevent damage from vehicles?
- ☐ Are all solvent wastes and flammable liquids kept in fire resistant, covered containers until they are removed from the worksite?
- ☐ Is vacuuming used whenever possible rather than blowing or sweeping combustible dust?
- ☐ Are firm separators placed between containers of combustibles or flammables that are stacked one upon another to ensure their support and stability?
- ☐ Are fuel gas cylinders and oxygen cylinders separated by distance and fire-resistant barriers while in storage?
- ☐ Are fire extinguishers selected and provided for the types of materials in the areas where they are to be used?
Class A - Ordinary combustible material fires.
Class B - Flammable liquid, gas or grease fires.
Class C - Energized-electrical equipment fires.
- ☐ If a Halon 1301 fire extinguisher is used, can employees evacuate within the specified time for that extinguisher?
- ☐ Are appropriate fire extinguishers mounted within 75 feet (22.86 meters) of outside areas containing flammable liquids and within 10 feet (3.048 meters) of any inside storage area for such materials?
- ☐ Are extinguishers free from obstructions or blockage?
- ☐ Are all extinguishers serviced, maintained and tagged at intervals not to exceed one year?
- ☐ Are all extinguishers fully charged and in their designated places?
- ☐ Where sprinkler systems are permanently installed, are the nozzle heads so directed or arranged that water will not be sprayed into operating electrical switchboards and equipment?

FLAMMABLE AND COMBUSTIBLE MATERIALS – (continued)

- ☐ Are safety cans used for dispensing flammable or combustible liquids at the point of use?
- ☐ Are all spills of flammable or combustible liquids cleaned up promptly?
- ☐ Are storage tanks adequately vented to prevent the development of excessive vacuum or pressure as a result of filling, emptying or atmosphere temperature changes?
- ☐ Are storage tanks equipped with emergency venting that will relieve excessive internal pressure caused by fire exposure?
- ☐ Are rules enforced in areas involving storage and use of hazardous materials?
- ☐ Where corrosive liquids are frequently handled in open containers or drawn from storage vessels or pipelines, are adequate means readily available for neutralizing or disposing of spills or overflows and performed properly and safely?
- ☐ Are standard operating procedures established and are they being followed when cleaning up chemical spills?
- ☐ Are respirators stored in a convenient, clean and sanitary location, and are they adequate for emergencies?
- ☐ Are employees prohibited from eating in areas where hazardous chemicals are present?
- ☐ Is PPE used and maintained whenever necessary?
- ☐ Are there written standard operating procedures for the selection and use of respirators where needed?

HAZARDOUS CHEMICAL EXPOSURE

- ☐ Are employees aware of the potential hazards and trained in safe handling practices for situations involving various chemicals stored or used in the workplace such as acids, bases, caustics, epoxies, phenols, etc.?
- ☐ Is employee exposure to chemicals kept within acceptable levels?
- ☐ Are eye-wash fountains and safety showers provided in areas where corrosive chemicals are handled?
- ☐ Are all containers, such as vats, storage tanks, etc., labeled as to their contents, e.g., "CAUSTICS"?
- ☐ Are all employees required to use personal protective clothing and equipment when handling chemicals (gloves, eye protection, respirators, etc.)?
- ☐ Are flammable or toxic chemicals kept in closed containers when not in use?
- ☐ Are chemical piping systems clearly marked as to their content?
- ☐ If you have a respirator protection program, are your employees instructed on the correct usage and limitations of the respirators? Are the respirators National Institute for Occupational Safety and Health (NIOSH) approved for this particular application? Are they regularly inspected, cleaned, sanitized and maintained?
- ☐ If hazardous substances are used in your processes, do you have a medical or biological monitoring system in operation?
- ☐ Are you familiar with the threshold limit values or permissible exposure limits of airborne contaminants and physical agents used in your workplace?
- ☐ Have appropriate control procedures been instituted for hazardous materials, including safe handling practices and the use of respirators and ventilation systems?
- ☐ Whenever possible, are hazardous substances handled in properly designed and exhausted booths or similar locations?

HAZARDOUS CHEMICAL EXPOSURE (continued)

- ☐ Do you use general dilution or local exhaust ventilation systems to control dusts, vapors, gases, fumes, smoke, solvents or mists that may be generated in your workplace?
- ☐ Is operational ventilation equipment provided for removal of contaminants from production grinding, buffing, spray painting and/or vapor degreasing?
- ☐ Do employees complain about dizziness, headaches, nausea, irritation or other factors of discomfort when they use solvents or other chemicals?
- ☐ Is there a dermatitis problem? Do employees complain about dryness, irritation or sensitization of the skin?
- ☐ Have you considered having an industrial hygienist or environmental health specialist evaluate your operation?
- ☐ If internal combustion engines are used, is carbon monoxide kept within acceptable levels?
- ☐ Is vacuuming used rather than blowing or sweeping dust whenever possible for cleanup?
- ☐ Are materials that give off toxic, asphyxiant, suffocating or anesthetic fumes stored in remote or isolated locations when not in use?

HAZARDOUS SUBSTANCES COMMUNICATION

- ☐ Is there a list of hazardous substances used in your workplace and a Safety Data Sheet (SDS) readily available for each hazardous substance used?
- ☐ Is there a written hazard communication program dealing with SDSs, labeling and employee training?
- ☐ Is each container for a hazardous substance (i.e., vats, bottles, storage tanks, etc.) labeled with product identity and a hazard warning (communication of the specific health hazards and physical hazards)?
- ☐ Is there an employee training program for hazardous substances that includes:
 - an explanation of what an SDS is and how to use and obtain one;
 - SDS contents for each hazardous substance or class of substances;
 - explanation of "A Right to Know";
 - identification of where an employee can see the written hazard communication program;
 - location of physical and health hazards in particular work areas and the specific protective measures to be used; and
 - details of the hazard communication program, including how to use the labeling system and SDSs.

ELECTRICAL

- ☐ Do you require compliance with federal or state-specific OSHA standards for all contract electrical work?
- ☐ Are all employees required to report any obvious hazard to life or property in connection with electrical equipment or lines as soon as possible?
- ☐ Are employees instructed to make preliminary inspections and/or appropriate tests to determine conditions before starting work on electrical equipment or lines?
- ☐ When electrical equipment or lines are to be serviced, maintained or adjusted, are necessary switches opened, locked out or tagged, whenever possible?
- ☐ Are portable electrical tools and equipment grounded or of the double insulated type?
- ☐ Are electrical appliances such as vacuum cleaners, polishers, vending machines, etc., grounded?
- ☐ Do extension cords have a grounding conductor?
- ☐ Are multiple plug adaptors prohibited?
- ☐ Are ground-fault circuit interrupters installed on each temporary 15 or 20 ampere, 120 volt alternating current (AC) circuit at locations where construction, demolition, modifications, alterations or excavations are being performed?
- ☐ Are all temporary circuits protected by suitable disconnecting switches or plug connectors at the junction with permanent wiring?
- ☐ Do you have electrical installations in hazardous dust or vapor areas? If so, do they meet the National Electrical Code (NEC) for hazardous locations?
- ☐ Are exposed wiring and cords with frayed or deteriorated insulation repaired or replaced promptly?
- ☐ Are flexible cords and cables free of splices or taps?
- ☐ Are clamps or other securing means provided on flexible cords or cables at plugs, receptacles, tools, equipment, etc., and is the cord jacket securely held in place?
- ☐ Are all cord, cable and raceway connections intact and secure?
- ☐ In wet or damp locations, are electrical tools and equipment appropriate for the use or location or otherwise protected?
- ☐ Is the location of electrical power lines and cables (overhead, underground, under floor, other side of walls, etc.) determined before digging, drilling or similar work is begun?
- ☐ Are metal measuring tapes, ropes, hand-lines or similar devices with metallic thread woven into the fabric prohibited where they could come in contact with energized parts of equipment or circuit conductors?
- ☐ Is the use of metal ladders prohibited where the ladder or the person using the ladder could come in contact with energized parts of equipment, fixtures or circuit conductors?
- ☐ Are all disconnecting switches and circuit breakers labeled to indicate their use or equipment served?
- ☐ Are disconnecting means always opened before fuses are replaced?
- ☐ Do all interior wiring systems include provisions for grounding metal parts of electrical raceways, equipment and enclosures?
- ☐ Are all electrical raceways and enclosures securely fastened in place?
- ☐ Are all energized parts of electrical circuits and equipment guarded against accidental contact by approved cabinets or enclosures?
- ☐ Is sufficient access and working space provided and maintained around all electrical equipment to permit ready and safe operations and maintenance?

- ☐ Are all unused openings (including conduit knockouts) in electrical enclosures and fittings closed with appropriate covers, plugs or plates?
- ☐ Are electrical enclosures such as switches, receptacles, junction boxes, etc., provided with tight-fitting covers or plates?
- ☐ Are disconnecting switches for electrical motors in excess of two horsepower able to open the circuit when the motor is stalled without exploding? (Switches must be horsepower rated equal to or in excess of the motor rating.)
- ☐ Is low voltage protection provided in the control device of motors driving machines or equipment that could cause injury from inadvertent starting?
- ☐ Is each motor disconnecting switch or circuit breaker located within sight of the motor control device?
- ☐ Is each motor located within sight of its controller or is the controller disconnecting means able to be locked open or is a separate disconnecting means installed in the circuit within sight of the motor?
- ☐ Is the controller for each motor that exceeds two horsepower rated equal to or above the rating of the motor it serves?
- ☐ Are employees who regularly work on or around energized electrical equipment or lines instructed in cardiopulmonary resuscitation (CPR)?
- ☐ Are employees prohibited from working alone on energized lines or equipment over 600 volts?

NOISE

- ☐ Are there areas in the workplace where continuous noise levels exceed 85 decibels?
- ☐ Is there an ongoing preventive health program to educate employees in safe levels of noise, exposures, effects of noise on their health and the use of personal protection?
- ☐ Have work areas where noise levels make voice communication between employees difficult been identified and posted?
- ☐ Are noise levels measured with a sound level meter or an octave band analyzer and are records being kept?
- ☐ Have engineering controls been used to reduce excessive noise levels? Where engineering controls are determined to be infeasible, are administrative controls (i.e., worker rotation) being used to minimize individual employee exposure to noise?
- ☐ Is approved hearing protective equipment (noise attenuating devices) available to every employee working in noisy areas?
- ☐ Have you tried isolating noisy machinery from the rest of your operation?
- ☐ If you use ear protectors, are employees properly fitted and instructed in their use?
- ☐ Are employees in high noise areas given periodic audiometric testing to ensure that you have an effective hearing protection system?

FUELING

- ☐ Are employees prohibited from fueling an internal combustion engine with a flammable liquid while the engine is running?
- ☐ Are fueling operations performed to minimize spillage?
- ☐ When spillage occurs during fueling operations, is the spilled fuel washed away completely, evaporated or are other measures taken to control vapors before restarting the engine?
- ☐ Are fuel tank caps replaced and secured before starting the engine?
- ☐ In fueling operations, is there always metal contact between the container and the fuel tank?
- ☐ Are fueling hoses designed to handle the specific type of fuel?
- ☐ Are employees prohibited from handling or transferring gasoline in open containers?
- ☐ Are open lights, open flames, sparking or arcing equipment prohibited near fueling or transfer of fuel operations?
- ☐ Is smoking prohibited in the vicinity of fueling operations?
- ☐ Are fueling operations prohibited in buildings or other enclosed areas that are not specifically ventilated for this purpose?
- ☐ Where fueling or transfer of fuel is done through a gravity flow system, are the nozzles self-closing?

IDENTIFICATION OF PIPING SYSTEMS

- ☐ When nonpotable water is piped through a facility, are outlets or taps posted to alert employees that the water is unsafe and not to be used for drinking, washing or other personal use?
- ☐ When hazardous substances are transported through above-ground piping, is each pipeline identified at points where confusion could introduce hazards to employees?
- ☐ When pipelines are identified by color painted bands or tapes, are the bands or tapes located at reasonable intervals and at each outlet, valve or connection, and are all visible parts of the line so identified?
- ☐ When pipelines are identified by color, is the color code posted at all locations where confusion could introduce hazards to employees?
- ☐ When the contents of pipelines are identified by name or name abbreviation, is the information readily visible on the pipe near each valve or outlet?
- ☐ When pipelines carrying hazardous substances are identified by tags, are the tags constructed of durable materials, the message printed clearly and permanently, and are tags installed at each valve or outlet?
- ☐ When pipelines are heated by electricity, steam or other external source, are suitable warning signs or tags placed at unions, valves or other serviceable parts of the system?

MATERIALS HANDLING

- ☐ Is there safe clearance for equipment through aisles and doorways?
- ☐ Are aiseways permanently marked and kept clear to allow unhindered passage?
- ☐ Are motorized vehicles and mechanized equipment inspected daily or prior to use?
- ☐ Are vehicles shut off and brakes set prior to loading or unloading?
- ☐ Are containers of liquid combustibles or flammables, when stacked while being moved, always protected by dunnage (packing material) sufficient to provide stability?
- ☐ Are dock boards (bridge plates) used when loading or unloading operations are taking place between vehicles and docks?
- ☐ Are trucks and trailers secured from movement during loading and unloading operations?
- ☐ Are dock plates and loading ramps constructed and maintained with sufficient strength to support imposed loading?
- ☐ Are hand trucks maintained in safe operating condition?
- ☐ Are chutes equipped with sideboards of sufficient height to prevent the materials being handled from falling off?
- ☐ Are chutes and gravity roller sections firmly placed or secured to prevent displacement?
- ☐ Are provisions made to brake the movement of the handled materials at the delivery end of rollers or chutes?
- ☐ Are pallets usually inspected before being loaded or moved?
- ☐ Are safety latches and other devices being used to prevent slippage of materials off of hoisting hooks?
- ☐ Are securing chains, ropes, chockers or slings adequate for the job?
- ☐ Are provisions made to ensure that no one is below when hoisting material or equipment?
- ☐ Are SDSs available to employees handling hazardous substances?

TRANSPORTING EMPLOYEES AND MATERIALS

- ☐ Do employees who operate vehicles on public thoroughfares have valid operator's licenses?
- ☐ When seven or more employees are regularly transported in a van, bus or truck, is the operator's license appropriate for the class of vehicle being driven and are there enough seats?
- ☐ Are vehicles used to transport employees equipped with lamps, brakes, horns, mirrors, windshields and turn signals, and are they in good repair?
- ☐ Are transport vehicles provided with handrails, steps, stirrups or similar devices, placed and arranged to allow employees to safely mount or dismount?
- ☐ Are employee transport vehicles equipped at all times with at least two reflective-type flares?
- ☐ Is a fully charged fire extinguisher, in good condition, with at least a 4 B:C rating maintained in each employee transport vehicle?
- ☐ When cutting tools or tools with sharp edges are carried in passenger compartments of employee transport vehicles, are they placed in closed boxes or containers that are secured in place?
- ☐ Are employees prohibited from riding on top of any load that could shift, topple or otherwise become unstable?
- ☐ Is each van, bus or truck used regularly to transport employees equipped with an adequate number of seats?
- ☐ When employees are transported by truck, are provisions provided to prevent their falling from the vehicle?

CONTROL OF HARMFUL SUBSTANCES BY VENTILATION

- ☐ Is the volume and velocity of air in each exhaust system sufficient to gather the dusts, fumes, mists, vapors or gases to be controlled and to convey them to a suitable point of disposal?
- ☐ Are exhaust inlets, ducts and plenums designed, constructed and supported to prevent collapse or failure of any part of the system?
- ☐ Are clean-out ports or doors provided at intervals not to exceed 12 feet (3.6576 meters) in all horizontal runs of exhaust ducts?
- ☐ Where two or more different operations are being controlled through the same exhaust system, could the combination of substances involved create a fire, explosion or chemical reaction hazard in the duct?
- ☐ Is adequate makeup air provided to areas where exhaust systems are operating?
- ☐ Is the source point for makeup air located so that only clean, fresh air, free of contaminants will enter the work environment?
- ☐ Where two or more ventilation systems serve a work area, is their operation such that one will not offset the functions of the other?

SANITIZING EQUIPMENT AND CLOTHING

- ☐ Is required personal protective clothing or equipment able to be cleaned and disinfected easily?
- ☐ Are employees prohibited from interchanging personal protective clothing or equipment, unless it has been properly cleaned?
- ☐ Are machines and equipment that process, handle or apply materials that could injure employees cleaned and/or decontaminated before being overhauled or placed in storage?
- ☐ Are employees prohibited from smoking or eating in any area where contaminants are present that could be injurious if ingested?
- ☐ When employees are required to change from street clothing into protective clothing, is a clean change room with a separate storage facility for street and protective clothing provided?
- ☐ Are employees required to shower and wash their hair as soon as possible after a known contact with a carcinogen has occurred?
- ☐ When equipment, materials or other items are taken into or removed from a carcinogen-regulated area, is it done in a manner that will not contaminate non-regulated areas or the external environment?

TIRE INFLATION

- ☐ Where tires are mounted and/or inflated on drop center wheels or on wheels with split rims and/or retainer rings, is a safe practice procedure posted and enforced?
- ☐ Does each tire inflation hose have a clip-on chuck with at least 24 inches of hose between the chuck and an in-line hand valve and gauge?
- ☐ Does the tire inflation control valve automatically shut off the air flow when the valve is released?
- ☐ Is a tire restraining device such as a cage, rack or other effective means used while inflating tires mounted on split rims or rims using retainer rings?
- ☐ Are employees prohibited from standing directly over or in front of a tire while it is being inflated?

INFECTION CONTROL

- ☐ Is there a current written exposure control plan for occupational exposure to bloodborne pathogens and other potentially infectious materials, where applicable?
- ☐ Does the employee training program on the bloodborne pathogens standard contain the following elements:
 - an accessible copy of the standard and an explanation of its contents;
 - a general explanation of the epidemiology and symptoms of bloodborne diseases;
 - an explanation of the modes of transmission of Bloodborne Pathogens;
 - an explanation of the employer's exposure control plan and the means by which employees can obtain a copy of the written plan;
 - an explanation of the appropriate methods for recognizing tasks and the other activities that may involve exposure to blood and other potentially infectious materials;
 - an explanation of the use and limitations of methods that will prevent or reduce exposure, including appropriate engineering controls, work practices and PPE;

- information on the types, proper use, location, removal, handling, decontamination and disposal of PPE;
- an explanation of the basis for selection of PPE;
- information on the hepatitis B vaccine;
- information on the appropriate actions to take and persons to contact in an emergency involving blood or other potentially infectious materials;
- an explanation of the procedure to follow if an exposure incident occurs, including the methods of reporting the incident and the medical follow-up that will be made available;
- information on post-exposure evaluations and follow-up; and
- an explanation of signs, labels and color coding.

- ☐ Are employees trained in:
 - how to recognize tasks that might result in occupational exposure;
 - how to use work practice, engineering controls and PPE, and their limitations;
 - how to obtain information on the types, selection, proper use, location, removal, handling, decontamination and disposal of PPE; and
 - who to contact and what to do in an emergency.
- ☐ Is personal protective equipment provided to employees, and in all appropriate locations?
- ☐ Are facilities/equipment to comply with workplace practice available, such as hand-washing sinks, biohazard tags and labels, needle containers, detergents/ disinfectants to clean up spills?
- ☐ Are all equipment and environmental and working surfaces cleaned and disinfected after contact with blood or potentially infectious materials?
- ☐ Is infectious waste placed in closable, leak proof containers, bags or puncture-resistant holders with proper labels?
- ☐ Has medical surveillance including hepatitis B virus (HBV) evaluation, antibody testing and vaccination been made available?

EMERGENCY ACTION PLAN

- ☐ Are you required to have an emergency action plan?
- ☐ Does the emergency action plan comply with federal or state-specific OSHA requirements?
- ☐ Have emergency escape procedures and routes been developed and communicated to all employees?
- ☐ Do employees, who remain behind to operate critical plant operations before they evacuate, know the proper procedures?
- ☐ Is the employee alarm system that provides a warning for emergency action recognizable and perceptible above ambient conditions?
- ☐ Are alarm systems properly maintained and tested regularly?
- ☐ Is the emergency action plan reviewed and revised periodically?
- ☐ Do employees know their responsibilities for reporting emergencies, during an emergency, and for conducting rescue and medical duties?

Hazard Assessment & Corrective Action Form

Date of Inspection: _____ Person Conducting Inspection: _____

| UNSAFE CONDITION OR WORK PRACTICE | LOCATION | PRIORITY | PERSON ASSIGNED | CORRECTIVE ACTION TAKEN (DATE) |
|--------------------------------------|----------|----------|--------------------|-----------------------------------|
| | | | | |
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Employer Responsibilities for Reporting Fatalities, Hospitalization, Amputation, and Loss of Eye Incidents to OSHA

The Occupational Safety and Health Administration (OSHA) has specific requirements related to reporting work-related fatalities and certain significant injuries. Unfortunately for employers, State OSHA Plans often differ from Federal OSHA.

Federal OSHA requires any employer under their jurisdiction to report the following injuries:

1. A work-related fatality (occurring within 30 days of the work-related incident)
2. A work-related hospitalization requiring the care and treatment of a single employee
3. Any work-related amputation
4. Any work-related loss of an eye

The above injuries must be reported directly to the local OSHA Area Office by telephone, online, or in person.

Fatalities must be reported within 8 hours. Hospitalizations, amputations, and loss of eye injuries must be reported within 24 hours. The 8-hour and 24-hour time frames include evenings, weekends, and holidays.

Many State OSHA plans follow the same injury reporting requirements, however, some states have slightly different requirements. Some states have different time frames for reporting injuries, and other states require different types of injuries to be reported.

ADP TotalSource^{*} and your Workers' Compensation Insurance carrier cannot report incidents to OSHA on your behalf. It is the employers' responsibility to understand the OSHA reporting requirements for their state and to report qualifying incidents within the required time.

CFR 29 1904.39 also requires the following.

- **If the Area Office is closed, may I report the work-related fatality, in-patient hospitalization, amputation, or loss of an eye by leaving a message on OSHA's answering machine, faxing the area office, or sending an e-mail?** No, if you can't talk to a person at the Area Office, you must report the work-related fatality, in-patient hospitalization, amputation, or loss of an eye by calling the 800 number – (800) 321-OSHA. 1904.39(b)(1)
- **What information do I need to give to OSHA about the work-related fatality, in-patient hospitalization, amputation, or loss of an eye?** You must give OSHA the following information for each work-related fatality, in-patient hospitalization, amputation, or loss of an eye. 1904.39(b)(2)
 1. Establishment name
 2. Location of the incident
 3. Time of the incident
 4. Type of reportable event (e.g., fatality, in-patient hospitalization, amputation, or loss of and eye)
 5. Number of and name of employees who suffered a fatality, in-patient hospitalization, amputation, or loss of and eye
 6. Employer's contact person and his or her phone number
 7. Brief description of the work-related incident
- **Do I have to report a fatality, in-patient hospitalization, amputation, or loss of an eye resulting from a motor vehicle accident on a public street or highway?** If the motor vehicle accident occurs on a public street or highway, and does not occur in a construction work zone, you do not have to report the incident to OSHA. However, these injuries must be recorded on your OSHA injury and illness records, if you are required to keep such records. 1904.39(b)(3)

- **Do I have to report a fatality, in-patient hospitalization, amputation, or loss of an eye if it occurred on a commercial or public transportation system?** No, you do not have to call OSHA to report a fatality, in-patient hospitalization, amputation, or loss of an eye if it occurred on a commercial or public airplane, train, subway or bus. However, the fatality or injury must be recorded on your OSHA injury and illness records, if you are required to keep such records. 1904.39(b)(4)
- **Do I have to report a fatality or in-patient hospitalization caused by a heart attack at work?** Yes, your local OSHA Area Office director will decide whether to investigate the event, depending on the circumstances of the heart attack. 1904.39(b)(5)
- **Do I have to report a fatality or in-patient hospitalization, amputation, or loss of an eye that occurs long after the work-related incident?** You must only report each fatality if that fatality occurs within 30 days of the work-related incident. For in-patient hospitalizations, amputations, or loss of an eye you must report the event to OSHA if it occurs within 24 hours of the work-related incident. 1904.39(b)(6)
- **What if I don't learn about a reportable fatality, in-patient hospitalization, amputation, or loss of eye right away?** If you do not learn of a reportable incident at the time it occurs you must make the report within eight hours of the time the fatality is reported to you or to any of your agent(s) or within 24 hours the in-patient hospitalization, amputation, or loss of eye is reported to you or any of your agents. 1904.39(b)(7)
- **How does OSHA define "in-patient hospitalization"?** OSHA defines in-patient hospitalization as a formal admission to the in-patient service of a hospital or clinic for care or treatment, but does not include in-patient hospitalization only for observation or diagnostic testing.
- **Is a work-related amputation of a fingertip without bone loss considered a reportable amputation?** Yes. An amputation is the traumatic loss of limb or other external body part. Amputations include a part, such as a limb or appendage, that has been severed, cut off, amputated (either completely or partially); fingertip amputations with or without bone loss; medical amputations resulting from irreparable damage; amputations of body parts that have since been reattached. Amputations do not include avulsions, enucleations, degloving, scalpings, severed ears or broken or chipped teeth.

OSHA Requirement to Report Mechanical Power Press Injuries

In addition to other injury reporting and recordkeeping requirements, the federal Occupational Safety and Health Act (OSHA) requires employers to report all point of operation injuries to operators or other employees within 30 days of the injury as detailed in 29 CFR 1910.217(g). Additionally, state OSHA plans may also require employers to report all point of operation injuries. Appropriate state OSHA plan requirements should be reviewed to confirm whether employers must report such injuries.

When reporting the injury, the following information must be provided.

1. Employer's name
2. Employer's address
3. Employee's name
4. Description of the type of injury sustained and type of task being performed when the injury was sustained
5. Type of clutch used on the press
6. Type of safeguard(s) being used
7. Cause of the accident
8. Type of feeding
9. Means used to actuate press stroke
10. Number of operators required for the operations
11. Number of operators provided with controls and safeguards
12. What corrective action has been taken, if any (voluntary)

The report must be submitted through the federal OSHA's website at <https://www.osha.gov/pls/oshaweb/mechanical.html> (see picture) or through the mail to the following address: Directorate of Standards and Guidance (insert footnote stating formerly Director of Safety Standards) OSHA, U.S. Department of Labor, Washington D.C. 20210.

To report mechanical power press injuries for state OSHA plans, the appropriate state OSH Division should be contacted.

The screenshot shows a web form for reporting mechanical power press injuries. It contains 12 numbered fields. Fields 1-3 are text inputs. Fields 4-6 are dropdown menus. Fields 7-9 are dropdown menus. Fields 10-11 are numeric inputs. Field 12 is a text input. A red note indicates that the response to item 12 is voluntary. A 'Submit Form' button is at the bottom.

| | |
|---|----------------------------|
| 1. Employer's Name | <input type="text"/> |
| 2. Address of establishment | <input type="text"/> |
| City | <input type="text"/> |
| State | Select a State ▼ |
| Zip Code | <input type="text"/> |
| 3. Employee's Name | <input type="text"/> |
| 4. Describe the type of Injury sustained | <input type="text"/> |
| Type of task being performed when injury was sustained | Select a task ▼ |
| 5. Type of clutch used on the press | Select a clutch used ▼ |
| 6. Type of safeguard(s) being used | Select a safeguard ▼ |
| 7. Cause of the accident | Select an accident cause ▼ |
| 8. Type of feeding | Select a feeding type ▼ |
| 9. Means used to actuate press stroke | Select a means ▼ |
| 10. Number of operators required for the operation | 0 ▼ |
| 11. Number of operators provided with controls and safeguards | 0 ▼ |
| ** Response to Item 12 is voluntary ** | |
| 12. What corrective action has been taken, if any | <input type="text"/> |
| <input type="button" value="Submit Form"/> | |

Accident Investigation and Corrective Action Report

This is a report of a: ☐ Death ☐ Lost time ☐ Doctor visit only ☐ First aid only ☐ Near miss

Date of Incident: _____

This report is made by: ☐ Employee ☐ Supervisor ☐ Team ☐ Other

Step 1: Injured Employee (Complete for each injured employee)

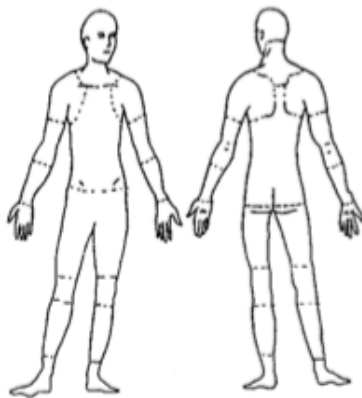
Sex: ☐ Male ☐ Female

Age: _____

Department: _____

Job title: _____

Part of body affected: (Shade all that apply)



Nature of injury:

- ☐ Abrasion, scrapes
- ☐ Amputation
- ☐ Broken bone
- ☐ Bruise
- ☐ Burn (heat)
- ☐ Burn (chemical)
- ☐ Concussion (to the head)
- ☐ Crushing injury
- ☐ Cut, laceration, puncture
- ☐ Hernia
- ☐ Illness
- ☐ Sprain or strain
- ☐ Damage to a body system
- ☐ Other _____

This employee works:

- ☐ Regular full time
- ☐ Regular part time
- ☐ Seasonal
- ☐ Temporary

Length of time employed: _____

Length of time on current job: _____

Step 2: Describe the Incident

Exact location: _____

Exact time: _____

What part of employee's workday?

This report is made by: ☐ Entering or leaving work ☐ Doing normal work activities ☐ During meal period
☐ During break ☐ Working overtime ☐ Other

Names of witnesses (if any):

Number of attachments: Written Witness Statements:

Photographs:

Maps / Drawings:

What Personal Protective Equipment was being used (if any)?

Describe step-by-step the events that led up to the injury. Include names of any machines, parts, objects, tools, materials, and other important details.

Description continued on attached sheets: ☐

Step 3: Why did the incident happen?

Unsafe workplace conditions: (Check all that apply)

- ☐ Inadequate guarding
- ☐ Unguarded hazard
- ☐ Safety device defective
- ☐ Tool or equipment defective
- ☐ Workstation layout hazardous
- ☐ Unsafe lighting
- ☐ Unsafe ventilation
- ☐ Lack of needed personal protective equipment
- ☐ Lack of appropriate equipment /tools
- ☐ Unsafe clothing
- ☐ No training or insufficient training
- ☐ Other _____

Unsafe acts: (Check all that apply)

- ☐ Operating without permission
- ☐ Operating at unsafe speed
- ☐ Servicing equipment that has power to it
- ☐ Making a safety device inoperative
- ☐ Using defective equipment
- ☐ Using equipment in an unapproved way
- ☐ Unsafe lifting
- ☐ Taking an unsafe position or posture
- ☐ Distraction, teasing, horseplay
- ☐ Failure to wear personal protective equipment
- ☐ Failure to use the available equipment/tools
- ☐ Other _____

Why did the unsafe conditions exist?

Why did the unsafe acts occur?

Is there a reward (such as "the job can be done more quickly" or "the product is less likely to be damaged") that may have encouraged the unsafe conditions or acts? ☐ Yes ☐ No

If yes, describe:

Were the unsafe acts or conditions reported prior to the incident? ☐ Yes ☐ No

Have there been similar incidents or near misses prior to this one? ☐ Yes ☐ No

Step 4: How can future incidents be prevented?

What changes are suggested to prevent this incident from happening again?

- ☐ Stop this Activity ☐ Guard the Hazard ☐ Train the Employee(s) ☐ Train the Supervisor(s)
☐ Redesign Task Steps ☐ Redesign Workstation ☐ Write a New Policy/Rule ☐ Enforce Existing Policy
☐ Routinely Inspect for Hazard ☐ Personal Protective Equipment ☐ Other:

What should be (or has been) done to carry out the suggestion(s) checked above?

Description continued on attached sheets: ☐

Step 5: Who completed and reviewed this investigation? (Please print)

Completed By: Title:

Department: Date:

Names of Investigation Team Members:

Reviewed by: Title:

Date:

Guidelines for Accident Investigation

An investigation is an in-depth look at an incident to determine exactly what happened, what factors caused it to happen and, from an accident prevention standpoint, what changes and improvements can be made to keep it from happening again. The completed incident investigation form is simply a written report of the findings of this investigation. Investigation guidelines should be followed for all work-related injuries, illnesses and near-misses.

- ☐ Go to the scene of the incident, ask questions to determine who, what, where, when and how the incident occurred. Interview the injured employee, if appropriate, and any witnesses. A thorough incident investigation involves exploring:
 - Basic Facts
 - Instruments, material or equipment involved
 - Type of incident – fall, struck by object, instrument involved, etc.
 - Part of body affected – identify part(s) of body injured
 - Exactly what employee was doing at the time of the injury
 - Unsafe Practices or Procedures
 - Departure from established policy
 - Established procedures that are not safe
 - Lack of established procedures
 - Behavioral Factors
 - Lack of knowledge
 - Disregard of instructions
 - Inadequate training
 - Emotional upset
 - Excessive haste
 - Unsafe Conditions
 - Physical defects
 - Errors in design
 - Inadequate maintenance
 - Poor housekeeping practices
 - Faulty planning or layout
 - Omission in recognizing safety requirements
 - Environmental Factors
 - Noise
 - Chemical or dust emissions
 - Lighting
 - Temperature extremes
 - Vibration
 - Ergonomic Factors – the relationship between the employee and the workplace
 - "Fit" between employee and equipment or instruments
 - Repetitive motions
 - Materials handling requirements involving excessive forces or reaching or twisting
 - Safety Programs – contributing factors that could be corrected by:
 - Safety policies, procedures or programs
 - Inspection and/or testing procedures
 - Authorization procedures
 - Safety rules
- ☐ After completing an in-depth investigation incident causes and corrective actions can be identified. More than one type of corrective action may be identified for a given incident. An engineering or other physical change to eliminate a hazard is more effective than training or warning to avoid the hazard.
- ☐ Sign and date the report and send it to the Safety Coordinator or designated associate who will review the report and, if appropriate, forward it on for comments and management review.

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The following guidelines are recommended for Fatality Investigations:

- ☐ NOTIFY senior Management.
- ☐ DESIGNATE one person to coordinate investigation.
- ☐ DESIGNATE one spokesperson to contact outside agencies.
- ☐ NOTIFY immediate family.
- ☐ ATTEMPT to identify all witnesses.
- ☐ ATTEMPT to identify all employees in the immediate area.
- ☐ SECURE statements of what was observed even if they state nothing was observed. Have signed, but with corroborating witnesses. Ensure employee that this is for informational purposes. Employees will not be retaliated against or any adverse action taken for assisting in an accident investigation.
- ☐ DOCUMENT fatal event by drawing, photographs or other appropriate means.
- ☐ RECORD position of machine controls i.e., manual-automatic mode, etc.
- ☐ DOCUMENT safety training provided.
- ☐ ENCOURAGE an autopsy.
- ☐ EXPECT to prevent an imminent danger situation. NO changes to equipment or procedures should be made until the investigation is complete or a release is given by the appropriate or designated individual.
- ☐ DEAL with facts. DO NOT attempt to determine cause on circumstantial evidence.
- ☐ NO member of management should be interviewed by outside agencies until they are given guidance by the appropriate or designated individual.
- ☐ EVERY document generated should be labeled as draft. Nothing should be in final form until approved by the appropriate or designated individual.

List of Training Subjects

We train our employees about the following checked training subjects.

| | |
|--------------------------|--|
| <input type="checkbox"/> | Bloodborne pathogens and other biological hazards |
| <input type="checkbox"/> | Code of safe practices |
| <input type="checkbox"/> | Confined spaces |
| <input type="checkbox"/> | Crane operations |
| <input type="checkbox"/> | Driver safety |
| <input type="checkbox"/> | Electrical hazards |
| <input type="checkbox"/> | Elevated platforms, including condors and scissor lifts |
| <input type="checkbox"/> | Emergency action and fire prevention plan |
| <input type="checkbox"/> | Ergonomic hazards, including proper lifting techniques |
| <input type="checkbox"/> | Fall protection |
| <input type="checkbox"/> | Fire prevention |
| <input type="checkbox"/> | Fleet safety |
| <input type="checkbox"/> | Good housekeeping |
| <input type="checkbox"/> | Guarding of belts and pulleys, gears and sprockets, and/or conveyor nip points |
| <input type="checkbox"/> | Hazard communication |
| <input type="checkbox"/> | Hazardous chemical exposures |
| <input type="checkbox"/> | Hearing conservation (noise) |
| <input type="checkbox"/> | Heat and/or cold stress |
| <input type="checkbox"/> | Injury and illness prevention program (IIPP) |
| <input type="checkbox"/> | Ionizing and non-ionizing radiation |
| <input type="checkbox"/> | Laboratory safety |
| <input type="checkbox"/> | Ladder safety |

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| | |
|--------------------------|---|
| <input type="checkbox"/> | Landing and loading areas, including release of rigging, landing layout, moving vehicles and equipment, and log truck locating, loading and wrapping |
| <input type="checkbox"/> | Lock out tag out procedures |
| <input type="checkbox"/> | Machine, machine parts and machine guarding |
| <input type="checkbox"/> | Material handling |
| <input type="checkbox"/> | Medical services, first aid and emergency service |
| <input type="checkbox"/> | Other job-specific hazards |
| <input type="checkbox"/> | Personal protective equipment |
| <input type="checkbox"/> | Powered industrial trucks |
| <input type="checkbox"/> | Powered tools safe use and operation |
| <input type="checkbox"/> | Reporting unsafe conditions, work practices and injuries |
| <input type="checkbox"/> | Respiratory protection |
| <input type="checkbox"/> | Safe access to work areas |
| <input type="checkbox"/> | Safe practices for cleaning, repairing, servicing and adjusting equipment and machinery |
| <input type="checkbox"/> | Safe practices for operating agricultural equipment |
| <input type="checkbox"/> | Safe practices for operating construction equipment |
| <input type="checkbox"/> | Safe use of explosives |
| <input type="checkbox"/> | Slips, trips and falls |
| <input type="checkbox"/> | Tree falling/buckling procedures and precautions, including procedures for recognizing and working with hazard trees, snags, lodged trees and unsafe weather conditions |
| <input type="checkbox"/> | Trenching and excavation work |
| <input type="checkbox"/> | Workplace violence |
| <input type="checkbox"/> | Yarding operations, including skidding, running lines, unstable logs, rigging and communication |
| | |

Safety Orientation Checklist

Instructions to Supervisor(s): Review all applicable safety policies and programs with each employee before the employee begins the job (new hire or transfer). Indicate the date and reviewer's name as completed, and file final form in Human Resources file.

| | | |
|----------------------|-----------------------------|---------------------|
| Employee Name | Evolution Maintenance, Inc. | |
| Job Title | | Date 1/10/18 |

| Safety Policy | Date | Reviewer's Name |
|--|-------------|------------------------|
| General Safety Rules | | |
| Accident Reporting | | |
| Bloodborne Pathogens | | |
| Confined Space | | |
| Construction Industry Fall Protection | | |
| Disciplinary Policy For Safety Infractions | | |
| Emergency Action Plan | | |
| Ergonomics | | |
| Fire Prevention | | |
| Fleet and Driver Safety | | |
| General Industry Fall Protection | | |
| Hazard Communication (GHS) | | |
| Hazard Recognition and Control | | |
| Hearing Conservation | | |
| Heat Illness | | |
| Injury and Illness Prevention Program (IIPP) | | |
| Ladder Safety | | |
| Lock Out/Tag Out | | |
| Machine Guarding | | |
| Personal Protective Equipment | | |
| Powered Industrial Trucks | | |
| Respiratory Protection | | |
| Workplace Violence Prevention | | |

[illegible]

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Evolution Safety Plan Supplement March 2021

This is a supplemental document to the Evolution Safety Plan as posted in the ADP portal. Effective 3/15/2021, if there is anything included in this document that is not covered or contradictory to material covered in the Evolution Safety Plan, this document takes precedence over the Evolution Safety Plan.

Drug and Alcohol Policy Supplement

1. Policy:

Evolution Maintenance, Inc. is committed to maintaining a safe work environment for all employees and those in the public who may be affected, while ensuring that all employees are treated fairly and with respect. Everyone who works for and with our Company is expected to understand the risks of alcohol and drug use to workplace safety, and to be able to identify and respond to those risks in compliance with this policy. Employees are expected to comply directly with this policy and any supporting Company programs. Contractors who conduct work on behalf of our Company are expected to develop and enforce comparable policies and programs to manage alcohol and drug risks among their employees.

2. Work Rules:

- 2.1. All employees will be informed regarding this policy at the time of employment. Additionally, it will be discussed periodically at "tailgate" safety meetings.
- 2.2. An employee who has a substance problem is encouraged to seek immediate assistance. The Executive Team will provide the employee with the name and address of local agencies or facilities that are equipped to provide the rehabilitation assistance needed by the employee.
- 2.3. The following actions are strictly prohibited;
 - 2.3.1. While on company property or at a company worksite, to use, consume, possess, distribute, sell or transfer:
 - i. Alcohol (unless contained in sealed (unopened) packaging, and secured in vehicle for transfer to home or official company-sanctioned event) or
 - ii. Drugs other than those permitted by this policy as described below, or
 - iii. Drug paraphernalia;
 - 2.3.2. From reporting to work or performing work while the employee's ability to safely perform his or her duties is adversely affected by use of drugs or alcohol.
 - 2.3.3. From refusing to;
 - i. Comply with a request to confirm he or she is in compliance with this policy when a supervisor or manager has reasonable grounds to believe the employee may not be in compliance, or
 - ii. Comply with a request to submit to an alcohol or drug test:
 - a. When a supervisor or manager has reasonable grounds to believe the employee may not be in compliance with the policy and the employee cannot confirm compliance without a test;
 - b. Following an incident or near miss if a supervisor or manager present at

the workplace has reasonable grounds to believe that the employee was involved in the incident or near miss and there is no objective evidence to believe that the use of alcohol or drugs did not contribute to the cause of the incident or near miss;

- c. When applying for or transferring into a safety-sensitive position;
- d. As periodically required by the Company throughout the time the employee is working in a safety-sensitive position; and
- e. When the employee has previously tested positive and is returning to work after an assessment by a substance abuse expert.

2.4. This Work Rule permits the possession or use of prescription and non-prescription drugs under the following conditions:

- i. Any prescription drug in the employee's possession or used by the employee is prescribed to the employee, and
- ii. The employee is using the prescription or non-prescription drug for its intended purpose and in the manner directed by the employee's physician or pharmacist or the manufacturer of the drug, and
- iii. The use of the prescription or non-prescription drug does not adversely affect the employee's ability to safely perform his or her duties, and
- iv. The employee has notified his or her supervisor or manager before starting work of any potentially unsafe side effects associated with the use of the prescription or non-prescription drug.

No information collected about an employee under this policy will be disclosed to any person, unless the employee has given consent or the supervisor or manager in possession of the information is legally required to disclose it.

3. Testing Procedures

3.1. Laboratory Testing

EVOLUTION MAINTENANCE will designate the laboratories to perform substance testing on blood or urine specimens in accordance with standards set forth by an established industry standard. The substances and detection levels covered by this testing program are set forth below. Employees may be asked by collection site personnel to indicate whether there is the potential that they will test positive for prescription or other substances. A consent form and information sheet will be provided. If the employee fails to provide an acceptable urine specimen the company may take the following steps:

- i. Extend the stay of the employee at the designated collection site, if feasible, until an acceptable specimen can be collected.
- ii. Reschedule the test due to unusual circumstances, i.e. post-operative situations.

- iii. Discipline the employee, up to and including termination, on the first offense for failing to cooperate or refusing to provide an acceptable specimen

All positive urine specimen test results for employees on active status will be confirmed by standard laboratory procedures. In case of testing by means other than urine (i.e. breath or other samples), reliable laboratory or instrument testing procedures will be followed.

3.2. Testing Substances

As a minimum, the following substances and detection levels shall be tested for:

- i. Alcohol level equal to or in excess of 0.04 BAL;
- ii. Equal to or in excess of the urine concentrations set out in the below table;

| Drugs or Classes of Drugs | Screening concentration equal to or in excess of ng/ml |
|-------------------------------|--|
| Marijuana metabolites | 50 |
| Cocaine metabolites | 300 |
| Opiates | 2000 |
| 6-Acetylmorphone | 10 |
| Phencyclidine | 25 |
| Amphetamines/Methamphetamines | 1000 |
| MDMA | 500 |

Concentrations at or in excess of the above levels shall be conclusive proof of unacceptable levels of unauthorized, prohibited, illegal or controlled substances.

4. Disciplinary Action for Policy Violation

4.1 Applicants

- i. If the final result of a pre-employment drug screen is positive, the applicant will not be employed. No applicant can be reconsidered for employment sooner than six (6) months following the date of the positive drug screen.

4.2 Employees

- ii. No drug test will be conducted without written consent. However, any employee who refuses to provide such written consent and fully cooperate with this policy will be subject to disciplinary action up to and including discharge from employment.
- iii. Under certain circumstances, disciplinary action may include a mandatory referral to and enrollment in an approved rehabilitation program at the

employee's expense. This action may also require an indefinite suspension of regular employment.

- iv. An employee's job is not in jeopardy by reason of his voluntary admission to having a substance problem and request for help and referral to an approved rehabilitation program, provided that such request is made prior to, and well in advance of, any consideration of being tested under the provisions of this policy. Employees participating in this rehabilitation program will be subject to follow-up or "maintenance" testing.

4.3 Contractors, Subcontractors, Vendors, Their Employees' Agents or Representatives.

- i. No drug test will be conducted without written consent. However, anyone who refuses to provide such written consent and does not fully cooperate with this policy will be subject to disciplinary action up to and including removal from the job or job site, as may be appropriate. Preliminary findings of a policy violation may require that the individual involved be suspended from the job pending the results of the company investigation.
- ii. If the final result of a "reasonable cause" or "post-accident" drug screen is positive, the individual will be permanently barred from the job.

5. Client Requirements

In the event that a client has an Alcohol and Drug Testing Guideline that is more stringent than those outlined above, the client's guidelines will be followed for all work done with that client. Examples of more stringent guidelines include but are not limited to:

- i. A greater number of substances (panels) to be tested for
- ii. A lower detection/cut off levels
- iii. Specified number or percent of employees to be tested on the site
- iv. DOT or similar mandated programs

Hoisting and Rigging Safety Program

A thorough annual inspection of the hoisting machinery shall be made by a competent person, or by a government or private agency recognized by the U.S. Department of Labor. Evolution Maintenance shall maintain a record of the dates and results of inspections and rated load tests for each hoisting machine and piece of equipment.

Any defects found will be repaired by a qualified person before the crane is used. Before a crane is placed in service for use, rope components shall be inspected by a qualified person for defects, damage and deformities and at least monthly thereafter. Certification of this inspection shall be in writing and document the date of inspection; inspector's name and signature; and identification number of the rope component inspected.

Inspection of wire rope

Wire rope shall be taken out of service when any of the following conditions exist:

- In running ropes, 6 randomly distributed broken wires in 1 lay or 3 broken wires in one strand in one lay;
- Wear of 1/3 the original diameter of outside individual wires.
- Kinking, crushing, bird caging, or any other damage resulting in distortion of the rope structure;
- Evidence of any heat damage from any cause;
- Reductions from nominal diameter of more than 1/64 inch for diameters up to and including 5/16 inch, 1/32 inch for diameters 3/8 inch to and including 1/2 inch, 3/64 inch for diameters 9/16 inch to and including 3/4 inch, 1/16 inch for diameters 7/8 inch to 1 1/8 inches inclusive, 3/32 inch for diameters 1 1/4 to 1 1/2 inches inclusive;
- In standing ropes, more than 2 broken wires in 1 lay in sections beyond end connections or more than 1 broken wire at an end connection.
- Wire rope safety factors shall be in accordance with American National Standards Institute B 30.5-1968 or SAE J959-1966.

Heavy wear and/or broken wires may occur in sections that have contact with equalizer sheaves or other sheaves (where rope travel is limited) or with saddles. Particular care shall be taken to inspect ropes at these locations.

If rope has not been used for a month or longer (i.e. due to shut down or storage of a crane on which it is installed) this rope shall be given a thorough inspection before it is used.

This inspection shall be made by a designated person who is authorized by the Company.

This inspector shall examine rope for any kind of damage, deterioration or defect that might compromise the safety and specifications of the rope. Specific attention and care shall be given to the inspection of non-rotating rope.

Only this designated and authorized inspector shall give approval for use of this rope following satisfactory safety inspection as described above.

A written record of the inspector's certification shall be maintained by the Safety Coordinator in a file and be readily available for review and confirmation. This certification shall include the inspection date, name and signature of the inspector, and the identification number of the rope component that was inspected.

Inspection of hoist chains

Hoist chains and end connections shall be inspected daily for damage, deterioration, excessive wear, twist, distorted links interfering with proper function, or stretch beyond manufacturer's recommendations.

Chains shall be inspected visually by the operator each day or before first use.

Chains also shall be inspected monthly for safety certification. The written certification shall include the date of inspection, name and signature of the inspector, and the identification number of the chain that was inspected. Written certification records shall be maintained by the Safety Coordinator in a file.

Inspection of hooks and hook components

Crane hooks and safety latches shall be visually inspected each day or at the beginning of a shift prior to use for damage, cracks or deformation.

Hooks and safety latches also shall be inspected monthly for safety certification. The written certification shall include the date of inspection, name and signature of the inspector, and the identification number of the hook that was inspected. Written certification records shall be maintained by the Safety Coordinator in a file.

Hooks that have cracks or a throat opening that is greater than 15 percent in excess of normal or more than 10-degree twist from the plane of the unbent hook shall be discarded.

Preventive maintenance

The Company has implemented a preventive maintenance program to help ensure the safety of cranes, hoists, rigging and related equipment. Preventive maintenance shall be performed in accordance with manufacturer's recommendations. Each crane shall have a written record of preventive maintenance that is maintained by the Safety Coordinator.

| <i>Type of Inspection</i> | <i>Who?</i> |
|--------------------------------------|-------------------------|
| <i>Modified or repaired/adjusted</i> | <i>Qualified person</i> |

| | |
|----------------------|-------------------------|
| <i>Post-assembly</i> | <i>Qualified person</i> |
| <i>Shift</i> | <i>Competent person</i> |
| <i>Monthly</i> | <i>Competent person</i> |
| <i>Annual</i> | <i>Qualified person</i> |

Qualified Riggers

All riggers of Evolution Maintenance will be qualified person for the performance of specified hoisting activities such as during assembly/disassembly work and those that require employees to be in the fall zone to handle a load. The rigger would be considered qualified through possession of a recognized degree, certificate, or professional standing; or by extensive knowledge, training, and experience, successfully demonstrating the ability to solve/resolve problems related to rigging work and related activities.

Signal Persons:

- *Qualification Requirements:*
 - *Know & understand signals*
 - *Competent in using signals*
 - *Basic understanding of crane operation*
 - *Verbal or written test plus practical test*

| <i>Qualified How</i> | <i>Documentation</i> | <i>Portable</i> |
|--|----------------------|-----------------|
| <i>Third party qualified evaluator</i> | <i>Yes</i> | <i>Yes</i> |
| <i>Employer qualified evaluator</i> | <i>Yes</i> | <i>No</i> |

Work Zone Safety Policy Supplement

Purpose:

The purpose of the Hazard Analysis is to provide a method for a supervisor and his/her crew to inspect an upcoming job, identify potential hazards related to that job, and to arrive at agreement on the development of a Safe Work Plan for completing their assignment.

POLICY:

Once the client/owner has issued a permit, it is each EVOLUTION MAINTENANCE employee's responsibility to ensure that the Safe Work Plan for the work he/she is about to do is properly developed. After receiving a valid work permit from the client/owner and before starting a job, each crew shall review the permit requirements and perform a thorough Hazard Analysis. The Hazard Analysis process serves as EVOLUTION MAINTENANCE Safe Work Plan. As such, by completing the process and signing on the back of the form, employees are indicating that they are prepared to accomplish the assigned task efficiently and safely.

In the event conditions change, the Hazard Analysis Form must be updated. Potential hazards, including those specific to the task and those general to the work area, must be discussed and a plan formulated to eliminate or minimize identified hazards. Each person on the crew must understand his/her role relating to the tasks at hand. When a new worker is assigned to a job in progress, the Hazard Analysis must be reviewed with this person and he/she must sign the form before beginning work.

PROCEDURE:

1. Once the client/owner work permit has been issued, the assigned crew shall conduct a thorough Hazard Analysis session at the job site, which includes, but is not limited to:
 - a) Walking the job and reviewing all elements of the assignment. The supervisor shall identify all equipment that is to be worked on.
 - b) Identifying existing and/or potential hazards and take appropriate action to eliminate or minimize identified hazards; reaching agreement on the safest plan to complete the assigned task. Each person on the crew must thoroughly understand their role in the upcoming tasks.
 - c) Evaluating PPE requirements and upgrading permit required PPE or providing additional PPE whenever necessary to provide maximum level of employee protection.
 - d) Ensuring that all workers know and are properly trained for their assignment(s).
 - e) Posting the completed form(s) along with the work permit in a conspicuous place in the work area. In the event it is not possible to post the form(s), they shall be kept readily available at the job site. The forms shall be kept in a manner that protects them from weather damage.
2. Whenever possible the supervisor shall be involved in the Hazard Analysis Session. However, there are times when this is not possible. Should the supervisor find that he/she will not be available, he/she shall assign a competent person to lead the session. As soon as practical following the beginning of a job, the supervisor shall review all Hazard Analysis Forms of crews assigned to him/her and sign the back of the form in the section provided.

General Instructions:

- Print and make sure the form is legible/readable. The only place you do not print required information is when you place your signature on the back of the form.
- Involve the entire crew in the process. The more eyes and experience used to identify hazards, the better.
- Whenever possible, the completed Hazard Analysis should be reviewed for proper completion and signed by the designated lead person, foreman, supervisor or Safety dept. representative **before** the work is started. If this is not possible, the form should be reviewed as soon as practical.
- When the form (s) is completed, it must be posted & readily available at the job site.

Front of Hazard Analysis Form:

Description of job – The first step of hazard analysis is to accurately describe the work to be performed. This will provide the basis for the rest of the process. At the top of the form, provide a brief, but specific description of the job you will perform.

Date and Time – Enter the date the work will be performed and the time you started the Hazard Analysis process.

Location – Enter the name of the facility where the work will be performed. For example:

Supervisor – Enter the name of the immediate foreman or supervisor.

Client Contact – Enter the name of the client contact person for that job.

Crew – Clearly **print** the name(s) of each person that will be working on the job. This may include non-EVOLUTION MAINTENANCE employees, such as other contractors or client personnel working with you.

Unit – Enter the name of the unit where the work will be performed. For example:

Equipment – Enter the number or name of the equipment you will be working on. Be as specific as possible. Make sure that you are preparing to work on the right equipment. If there is no number or name for the equipment, enter the number or name of the equipment it is connected to. For example:

Product – Enter the name of the product or material that is present or that was present when the equipment/line was in service. In addition, if the equipment/line was flushed or cleaned before the work is performed, indicate that on the form.

Permit Numbers – Enter the number from the client permit(s) in the appropriate section. Some jobs may have multiple permits.

Location of – (Enter the location of the nearest):

Telephone – This is the telephone that would be used to report an emergency (*i.e.* – *operators shack*). If there is no telephone in the immediate area, indicate how you would report an emergency (*i.e.* – *radio, cell phone*).

Emergency Phone No.(s) – Enter the phone number(s)/radio channel(s) for reporting emergencies at that location

Fire Extinguisher – Enter the location of the nearest portable fire extinguisher. Be sure to check the extinguisher and verify that it is fully charged, is operational, and has been inspected within the past year. Report any extinguisher that appears to be inoperable, damaged, discharged or in need of service.

Eyewash/Safety Shower – Enter the location of the nearest eyewash/safety shower. If it is alarmed, check with the unit operator before activating. If it is not connected to an alarm system,

verify that it is operational by activating the control lever/device, until the water flows clear. Once the system is flushed be sure to replace the protective caps on the eyewash applicators.
Yes, No, N/A Questions – Each one of these questions requires an answer. Carefully consider each question and how it will affect or apply to the work being performed. If the question doesn't apply to the job, mark it "N/A" (Not applicable). Each question is important.

Back of Hazard Analysis form -

Fall Protection – Answer the first question in this section. If you check "No", then you can move on to the next section. If you check "Yes", then you must complete the entire Fall Protection section. Make sure that workers are properly trained in the use of fall protection equipment.

Scaffold User Inspection – Answer the first question of this section. If you check "No" then you can move on to the next section. If you check "Yes", then you must conduct a thorough inspection of the staging prior to use and complete the entire Scaffold User Inspection section. If the scaffold is yellow-tagged, identify the hazard(s) that require the yellow tag (*i.e. – hole in deck, missing guardrail, restricted access*).

Job Steps – Briefly outline or list the steps necessary to safely complete the job from start to finish. For example:

Inspect/Prepare job site, obtain permit, complete Hazard Analysis form and review with crew, obtain/inspect tools and PPE, perform job, cleanup, return tools.

Existing Hazards – List hazards that are present at the job site. These will primarily be existing physical hazards. For example:

Elevated work, uneven surfaces, confined space, high noise levels, pinch points, conflicting work above/below, weather conditions.

Potential Hazards – List hazardous conditions that may be created/exposed while doing the work. For example:

Hot Pipes, product release, exposure to hazardous material(s), sparks/slag, heavy lifting, explosive atmosphere.

Action Taken To Eliminate or Minimize Hazards – List what you are going to do to eliminate or control each of the identified hazards.

Crew/Employee Signatures – Now that you have filled in the blanks and answered the questions, review the Hazard Analysis form with all crewmembers and any other contractor client personnel working on the job. When each crew member understands the hazards present, is properly trained for their assigned task and understands how to complete the work safely, they must sign their name in the same numbered space as they printed their name on the front of the form. Do not sign if you don't understand or aren't properly trained.

Hazard Analysis session lead by – The supervisor or foreman or lead person that conducts the Hazard Analysis review with all crew members and checks the form for proper completion must print and sign their name and indicate the date and time the review was held.

Now you can start the job! Remember, the form is complete, but **the process continues**. Always remain alert for changing conditions. The Hazard Analysis form must be modified/updated if conditions change or new hazards are found. Any modifications must be communicated with all crewmembers. *Remember to review the Hazard Analysis with any new crewmembers that are added while the job is in progress. Their name(s) and signature(s) must also be added to the Hazard Analysis form.

Post all completed forms in a conspicuous and readily available location.

| HAZARD ANALYSIS/SAFE WORK PLAN – GENERAL WORK | | | | | | | | | |
|--|--------------------------|--|-----|--|--|-----|----|-----|--|
| THIS CREW IS TO PERFORM THE FOLLOWING: | | | | | | | | | |
| DATE TIME | LOCATION | | | LOCATION OF: | PPE Check Applicable | | | | |
| SUPERVISOR | CLIENT CONTACT | | | Telephone | MINIMUM Hard Hat, Safety Glasses with Side Shields, Goggles, Ear Plugs, Gloves, Fire Retardant Coveralls, Work Boots ADDITIONAL <u>ALWAYS provide maximum level of worker protection</u> Vibration Dampening Gloves Knee Pads Face Shield Ear Muffs Safety Harness & Lanyard Supplied Air Half Face Respirator Full Face Respirator Acid Gear Rain Suit Rubber Gloves Rubber Boots Other | | | | |
| CREW: (Print name below and sign in the same numbered space on the back of this sheet. | | | | Emergency Phone No. (s)? | | | | | |
| <input type="checkbox"/> | <input type="checkbox"/> | UNIT | | Fire Extinguisher | | | | | |
| <input type="checkbox"/> | <input type="checkbox"/> | EQUIPMENT | | | | | | | |
| <input type="checkbox"/> | <input type="checkbox"/> | What product is/was in equipment? | | Eyewash/Safety Shower | | | | | |
| <input type="checkbox"/> | <input type="checkbox"/> | | | | | | | | |
| <input type="checkbox"/> | <input type="checkbox"/> | All permit numbers must be listed below. | | Evacuation Area Primary: | | | | | |
| <input type="checkbox"/> | <input type="checkbox"/> | HOT WORK # | | | | | | | |
| <input type="checkbox"/> | <input type="checkbox"/> | COLD WORK # | | Secondary: | | | | | |
| <input type="checkbox"/> | <input type="checkbox"/> | UNIT ENTRY # | | | | | | | |
| <input type="checkbox"/> | <input type="checkbox"/> | CONFINED SPACE # | | IF IN DOUBT,?? <u>STOP</u> AND ASK!! | | | | | |
| <input type="checkbox"/> | <input type="checkbox"/> | OTHER # | | | | | | | |
| Crew PSM trained? | YES | NO | N/A | Motorized equipment inspected? | | YES | NO | N/A | |
| Crew properly trained for job? | YES | NO | N/A | Operator(s) trained? Operator(s) on approved list? | | YES | NO | N/A | |
| Entire crew knows emergency evacuation procedure? | YES | NO | N/A | Rigging (slings, ropes, wire ropes, come-alongs, chain hoists) inspected and found safe? | | YES | NO | N/A | |
| Actions taken to prevent worker exposure to Hazardous Material? | YES | NO | N/A | Equipment blocked, de-pressured and drained? | | YES | NO | N/A | |
| Crew knows potential hazards? | YES | NO | N/A | Equipment locked/tagged out? | | YES | NO | N/A | |

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| | | | | | | | |
|--|-----|----|-----|---|-----|----|-----|
| Crew knows location of MSDS? | YES | NO | N/A | GFCI's/low voltage lighting used? | YES | NO | N/A |
| Entire crew familiar with safety manual? | YES | NO | N/A | Crew knows hand signals? | YES | NO | N/A |
| Weather presents a problem? | YES | NO | N/A | Crew aware of pinch points? | YES | NO | N/A |
| Conflicting jobs in area? | YES | NO | N/A | Tools/equipment inspected and found safe? | YES | NO | N/A |
| Barricades installed as needed & tagged? | YES | NO | N/A | Tool holders available for use with knocker wrench? | YES | NO | N/A |
| Work area clean, orderly & safe? | YES | NO | N/A | Equipment blinded? | YES | NO | N/A |
| Hoses and cords out of walkways? | YES | NO | N/A | Correct type of blinds & gaskets for job? | YES | NO | N/A |
| Drains properly covered? | YES | NO | N/A | Is work in confined space? | YES | NO | N/A |
| Work area clear of flammable hazards? | YES | NO | N/A | | | | |

PLAN YOUR WORK, AND THEN WORK YOUR PLAN SAFELY!!!

| FALL PROTECTION | | | | | | |
|---|--|--------|--|---|------------------|--------|
| Is work being performed at an unprotected elevated area where workers may be exposed to a fall of 6 feet or more? Note: Client/Owner or working conditions may require fall protection at lower elevations. If yes, complete the following information. | | | | | Ye s | N o |
| Have workers that require fall protection been provided with a full body harness, appropriate lanyard(s) with shock absorbing device and boom strap (if needed)? | Yes | N o | Is static line required? If yes, has it been inspected by a competent person prior to use? | Ye s Ye s | N o N o | |
| Have all workers completed fall protection training? | Yes | N o | Are adequate anchor points present? | Ye s | N o | |
| Has all fall protection equipment been inspected prior to use and found to be in safe condition? | | | | | Ye s | N o |
| List any other fall protection equipment required: | | | | | | |
| SCAFFOLD USER INSPECTION: Does job require use of scaffold? YES <input type="checkbox"/> NO <input type="checkbox"/> If yes, complete the section below. | | | | | | |
| <i>Inspect the following items before using</i> (Check box when found safe for use) <input checked="" type="checkbox"/> | | | | | | |
| Top and mid rails in place <input type="checkbox"/> | | | Bars and clamps tight and secure <input type="checkbox"/> | | | |
| Toe boards and falling object protection in place and secure <input type="checkbox"/> | | | Ladders in place and secure <input type="checkbox"/> | | | |
| Weather conditions do not present a hazard <input type="checkbox"/> | | | Holes in decks adequately covered <input type="checkbox"/> | | | |
| Planks in safe condition and secured <input type="checkbox"/> | | | Free of slipping and/or tripping hazard <input type="checkbox"/> | | | |
| Personnel barriers installed on hot lines/equipment <input type="checkbox"/> | | | Scaffolding properly tagged <input type="checkbox"/> | | | |
| Free of overhead hazards <input type="checkbox"/> | | | <i>Enter Maximum Load Allowed</i> | | | |
| List any hazards: | | | <i>(Heavy Duty Formula is Square Feet x 75 PSF = Max Capacity in pounds)</i> | | | |
| Steps of Task (List steps necessary to completed the task) | Potential Hazards Evaluate hazards associated with <u>Tools</u> being used, <u>Methods</u> employed to accomplish task, <u>Materials</u> required to complete task, and Working Environment/Conditions | | Controls (Identify preventative measures to be used to control each identified hazard) | PSM standards require employees to be trained on the hazards associated with each task. Do not sign this form unless you have been trained and understand the potential hazards associated with this task. If you have not been trained, do not understand or feel you can not complete this job safely, speak to your supervisor before starting work. | | |
| | | | Sign your name: | | | |
| | | | 1 | | | |
| | | | 2 | | | |
| | | | 3 | | | |

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|----------------------------------|---------------------|-------------------|--------------------|--------------|
| Hazard Analysis session lead by: | <i>(circle one)</i> | <i>Supervisor</i> | <i>Lead Person</i> | <i>Other</i> |
| Print Name: | Signature: | Date: | Time: | |
| Reviewed By: | <i>(circle one)</i> | <i>Supervisor</i> | <i>Safety</i> | <i>Other</i> |
| Print Name: | Signature: | Date: | Time: | |

Subcontractor Safety Management Policy Supplement

Policy

Subcontractors for Evolution Maintenance work sites shall be selected and managed in a manner consistent with the overall Evolution Maintenance safety objectives, policies, and procedures embodied in the other sections of this manual.

Purpose

To set forth a basis for the selection of safe subcontractors and to set forth procedures to assure that the subcontractor's safety activities are equal to or exceed those of Company Associates.

Scope

Applies to all Evolution Maintenance work sites, i.e. Company offices, client job sites, etc., that have occasion to use subcontractors.

Definitions

Experience Modification Rate (EMR) is a term related to Workers' Compensation insurance and means a factor developed by measuring the difference between an employer's actual past claim experience and the expected or actual experience of the industry classification of the employer. Depending on the workers compensation program in which the subcontractor participates, the EMR may be determined by a single state entity or a multi-state agency such as the National Council on Compensation Insurance (NCCI). The EMR is based on a point scale where 1.0 means average or expected losses for that type of industry classification. EMR's below 1.0 means below average loss history and EMR's above 1.0 mean above-average loss history.

Hours of Exposure means the total number of hours that all of a company's employees are exposed to occupational injuries or illnesses during a normal work year. Salaried and hourly employees are included. Straight-time and over-time hours are included.

Subcontractor for purposes of this section, means a person or business, which has a standard subcontract agreement with Company Associates, as an "independent contractor" (not an employee), to provide some portion of the fieldwork on a project for Company Associates.

Requirements

Subcontractor Selection

Form 5-1.1 of Appendix 5-1 is a Pre-Qualification Questionnaire that shall be used to capture the information noted within this section. It is required that safety performance be considered initially, and annually thereafter, in the selection of subcontractors, using the following criteria:

5.1.1 Experience Modification Rate (“EMR”)

Prospective subcontractors shall be required to furnish their EMR for the past three years. This information should come directly from the subcontractor’s broker. An EMR greater than 1.0 can indicate an employer with a high frequency and/or severity of workers compensation claims. In the event of an EMR greater than 1.0, a more detailed evaluation of their safety program is required by the Branch Safety Officer.

5.1.2 OSHA Log

Prospective subcontractors shall be required to submit copies of OSHA logs (or equivalent summary data) for the previous three years and applicable hours of exposure. Incident frequency and severity rates should be examined and compared for acceptability with:

- Comparable incident rates for relevant Company Associates work sites (if available)
- Industry average incident rates for their Standard
- Industrial Code (SIC or NAICS code) as published by the Bureau of Labor Statistics
- An incident rate specified by the Company Associates
- Branch Safety Officer or Regional Safety Coordinator

5.1.3 Evaluation of Subcontractor Safety Program

The prospective subcontractor shall demonstrate that his program meets or exceeds industry standards. The following areas are a minimum that shall be addressed by the subcontractor:

- The program should be industry specific, not generic, and should be responsive to the exposures prevalent in the industry and anticipated on the prospective project
- There should be elements of supervisor accountability for safety, accidents, and claim costs Safety meetings should be held regularly, with documentation as to the subject, who attended, and a review of past losses
- Safety audits (inspections) should be conducted by the subcontractor on a regular basis. Audit results should be documented to identify deficiencies and corrective action taken
- The program should provide for employee safety training, including the documentation thereof

5.1.4 OSHA Citations

The prospective subcontractor shall be required to provide information (reason, corrective action, and fines) regarding OSHA citations during the past three years. A history of frequent violations, infrequent but repeated violations, or violations applicable to the work to be performed would warrant further investigation.

5.2 Pre-Job Planning

The understanding of Evolution Maintenance and the subcontractor on important issues should be written and signed by both parties as part of the subcontract agreement and scope of work. Examples of such issues would be:

- Provision of tools and equipment and inspection thereof
- Performance in accordance with OSHA and other regulatory bodies

- Provision of all necessary PPE, training on its use, and enforcement of
- usage at the worksite
- Responsibility for housekeeping and debris removal efforts
- Responsibility for utility mark out, maintenance, and protection of traffic
- on underground and road projects during the project

5.3 Typical Actions Recommended During Performance of Work

Include subcontractors in the following safety activities:

- Manager Audits
- Safety Meetings
- Training Sessions
- Safety Audits
- Work Observations
- Job Safety Analysis Systems
- Injury Intervention Processes
- Root Cause Analysis
- Client-Required Programs

Applicable Markings/Placards Policy Supplement

1.0 PURPOSE

The purpose of this plan is to establish a program and procedures for the safe use of hazardous chemical substances at EVOLUTION MAINTENANCE.

The Occupational Safety and Health Administration (OSHA) Hazard Communication Standard (HCS) 29 CFR 1910.1200 (General Industry) and 29 CFR 1926.59 (Construction Industry) call for the development of a hazard communication program when employees may be exposed to any chemical in the workplace under normal conditions of use or in a foreseeable emergency. In 2012, OSHA revised the HCS to align with the Globally Harmonized System of Classification and Labeling of Chemicals (GHS). As a result, this program has been revised to comply with the requirements of the OSHA HCS 2012. The written hazard communication program will include and address the following criteria in order to satisfy the minimum requirements of the OSHA HCS 2012:

- List of all hazardous chemicals known to be present in the workplace or individual work area
- Methods used to ensure that all containers, including pipes and holding tanks, are labeled, tagged or marked properly
- Methods used to obtain and maintain safety data sheets (SDSs)
- Methods used to provide employees with information and training on hazardous chemicals in their work areas
- Methods used to inform employees of the hazards of nonroutine work practices
- Methods used to provide the employees of other employers (e.g., consultants, construction contractors and temporary employees) on-site access to SDSs for each hazardous chemical that the other employer's employees may be exposed to while working in the workplace
- Methods used to inform the employees of other employers of precautionary measures that need to be taken to protect themselves during the workplace's normal operating conditions and in foreseeable emergencies
- Methods used to inform the employees of other employers of the labeling system used in the workplace

The hazard communication program will identify the following:

- Key personnel responsible for the program
- Location of chemical inventory list and SDSs
- Workplace labeling system
- Good work practices and procedures to minimize exposures
- How training will be performed
- Procedures to maintain the program and update the required information
- How records will be maintained

2.0 RESPONSIBILITIES

The Executive Team (until reassigned), is responsible for administering the hazard communication program.

This person is also responsible for:

- Reviewing the potential hazards and safe use of chemicals
- Maintaining a list of all hazardous chemicals and a master file of SDSs
- Ensuring that all containers are labeled, tagged or marked properly
- Providing new-hire and annual training for employees
- Maintaining training records
- Monitoring the air concentrations of hazardous chemicals in the work environment
- Properly selecting and caring for personal protective equipment
- Directing the cleanup and disposal operations of the spill control team
- Identifying hazardous chemicals used in nonroutine tasks and assessing their risks
- Informing outside contractors who are performing work on company property about potential hazards
- Reviewing the effectiveness of the hazard communication program and making sure that the program satisfies the requirements of all applicable federal, state or local hazard communication requirements

The purchasing agent (typically the person responsible for “Parts Needed”) for each Zone is responsible for:

- Contacting chemical manufacturers and/or distributors to obtain SDSs and secondary labels for hazardous chemicals used or stored in the workplace

Employees are responsible for the following aspects of the hazard communication program:

- Identifying hazards before starting a job
- Reading container labels and SDSs
- Notifying the supervisor of torn, damaged or illegible labels or of unlabeled containers
- Using controls and/or personal protective equipment provided by the company to minimize exposure
- Following company instructions and warnings pertaining to chemical handling and usage
- Properly caring for personal protective equipment, including proper use, routine care and cleaning, storage, and replacement
- Knowing and understanding the consequences associated with not following company policy concerning the safe handling and use of chemicals
- Participating in training

3.0 CHEMICAL INVENTORY LIST

Copies of the chemical inventory list are available in the office at 1137 Myatt Blvd, Madison, TN 37115.

This list will contain the product identifier that is referenced on the appropriate SDS, the location or work area where the chemical is used, and the personal protective equipment and precautions for each chemical product. This list will be updated annually and whenever a new chemical is introduced to the workplace.

4.0 LABELS AND OTHER FORMS OF WARNING

Each container of hazardous chemicals received from the chemical manufacturer, importer or distributor will be labeled with the following information:

- Product identifier
- Signal word
- Hazard statement(s)
- Pictogram(s)
- Precautionary statement(s)
- Name, address and telephone number of the chemical manufacturer, importer or other responsible party

EVOLUTION MAINTENANCE will use the GHS labeling system for secondary containers. When a chemical is transferred from the original container to a portable or secondary container, the container will be labeled, tagged or marked with a GHS label containing the following information:

- Product identifier
- Signal word
- Hazard statement(s)
- Pictogram(s)
- Precautionary statement(s)

Portable containers into which hazardous chemicals are transferred from labeled containers and that are intended for the immediate use of the employee who performs the transfer do not require a label. If the portable container will be used by more than one employee or used over the course of more than one shift, the container must be labeled. Food and beverage containers should never be used for chemical storage.

Signs, placards, process sheets, batch tickets, operating procedures or other such written materials may be used in lieu of affixing labels to individual, stationary process containers as long as the alternative method identifies the containers to which it is applicable and conveys the information required for workplace labeling.

Where an area may have a hazardous chemical in the atmosphere (e.g., where extensive welding occurs), the entire area will be labeled with a warning placard.

Pipes that contain hazardous chemicals should be labeled in accordance with ANSI/ASME A13.1 and indicate the direction of flow. (Please note that this not a requirement of the OSHA HCS but a best practice or requirement of local jurisdiction.)

Workplace labels or other forms of warning will be legible, in English and prominently displayed on the container or readily available in the work area throughout each work shift. If employees speak languages other than English, the information in the other language(s) may be added to the material presented as long as the information is presented in English as well.

Note: *After Dec. 1, 2015, distributors may not ship containers labeled by the chemical manufacturer or importer unless the label on the container meets GHS labeling requirements.*

5.0 SAFETY DATA SHEETS

An SDS will be obtained and maintained for each hazardous chemical in the workplace. SDSs for each hazardous chemical will be readily accessible during each work shift to employees when they are in their work areas.

SDSs will be obtained from the chemical manufacturer, importer or distributor. The name on the SDS will be the same as that listed on the chemical inventory list. SDSs for chemicals or process streams produced by the company will be developed and provided by the Safety Coordinator.

The Safety Coordinator will maintain the master file of all original SDSs. Hard copies of the master file will be located in the office at 1137 Myatt Blvd, Madison, TN 37115.

SDSs for new products or updated SDSs for existing products will be obtained by the purchasing agent and forwarded to the safety coordinator. The Safety Coordinator will then update the master file with new and/or updated SDSs.

If problems arise in obtaining an SDS from the chemical manufacturer, importer or distributor, a phone call will be made to request an SDS and to verify that the SDS has been sent. The phone call will be logged and a letter will be sent the same day. The company will maintain a written record of all efforts to obtain SDSs. If these efforts fail to produce an SDS, the local OSHA office will be contacted for assistance.

6.0 EMPLOYEE INFORMATION AND TRAINING

Employees included in the hazard communication program will receive the following information and training prior to exposure to hazardous chemicals and when new chemical hazards are introduced to their work area:

- Requirements of the OSHA Hazard Communication Standard 29 CFR 1910.1200 (General Industry) or 29 CFR 1926.59 (Construction Industry)
- Operations in the work area where hazardous chemicals are present
- Location and availability of the hazard communication program, chemical inventory list and SDSs

- Methods and observations used to detect the presence or release of a hazardous chemical in the work area, such as monitoring devices, visual appearance or odor of hazardous chemicals when being released
- Physical, health, simple asphyxiation, combustible dust and pyrophoric gas hazards, as well as hazards not otherwise classified of the chemicals in the work area
- Measures employees can take to protect themselves from hazards, such as appropriate controls, work practices, emergency and spill cleanup procedures, and personal protective equipment to be used
- Explanation of the labels received on shipped containers
- Explanation of the workplace labeling system
- Explanation of the SDS, including order of information and how employees can obtain and use the appropriate hazard information

Note: To facilitate understanding of the new GHS system, the OSHA HCS requires that employees be trained regarding the new label elements and SDS format by Dec. 1, 2013. Employers are required to update the hazard communication program and to provide any additional training for newly identified physical or health hazards no later than June 1, 2016.

7.0 NONROUTINE TASKS

The Safety Coordinator and the immediate supervisor of an employee performing a nonroutine task, such as cleaning machinery and other process equipment, is responsible for ensuring that adequate training has been provided to the employee on any hazards associated with the nonroutine task. Employees share in this responsibility by ensuring that their immediate supervisor knows that the nonroutine task will be performed.

Special work permits are required for the performance of certain nonroutine tasks, such as entry to confined spaces, breaking and opening piping systems, and welding and burning. For some special tasks, employees are required to follow special lockout/tagout procedures to ensure that all machinery motion has stopped and energy sources are isolated prior to and during the performance of such tasks.

8.0 RECORDKEEPING

Records pertaining to the hazard communication program will be maintained by the Safety Coordinator. The Safety Coordinator will keep the following records:

- Chemical inventory list
- Hazardous material reviews
- Copies of phone call logs and letters requesting SDSs
- Employee training records
 - Warnings issued to employees for not following the hazard communication program

Driver and Overall Fatigue Management Policy Supplement

Purpose

To ensure EVOLUTION MAINTENANCE employees recognize to effect of fatigue as related to safely being able to perform work and to establish guidelines for work hours and equipment to reduce fatigue in our business and at our client locations.

Scope

This program applies to all Company projects and operations.

Policy

The guiding principles of fatigue management shall be incorporated into the normal management functions of the business and include the following:

- Employees must be in a fit state to undertake work
- Employees must be fit to complete work
- Employees must take minimum periods of rest to safely perform their work

These principles will be managed through:

- The appropriate planning of work tasks, including driving, vehicle and equipment maintenance, loading and unloading and other job-related duties and processes
- Providing appropriate equipment to help reduce stress and fatigue
- Regular medical checkups and monitoring of health issues as required by legislation
- The provision of appropriate sleeping accommodations where required
- Ongoing training and awareness of employee health and fatigue issues

Key Responsibilities

1. Managers

- a. Management accepts responsibility for the implementation of this fatigue management policy.

2. Supervisors

- a. Responsible for the implementation and maintenance of this program for their site and ensuring all assets are made available for compliance with the program.

3. Employees

- a. Employees must present in a fit state free from alcohol and drugs.
- b. Employees must not chronically use over the counter or prescription drugs to increase mental alertness.
- c. Employees are prohibited from taking any substance known to increase fatigue in that employee, including fatigue that sets in after the effects of the drug wear off.
- d. Workers shall report tiredness/fatigue to supervision and supervisors shall take appropriate action to assist the worker.
- e. Employees must report fatigue/tiredness and lack of mental acuity to supervision. Supervision must take appropriate actions to prevent loss.
- f. Employees need to be rested prior to starting work.

- g. Employees need to monitor their own performance and take regular periods of rest to avoid continuing work when tired.

Work Hour Limitations

EVOLUTION MAINTENANCE has set the following work hour limitations and will control job rotation schedules to control fatigue, allow for sufficient sleep and to increase mental fitness.

1. Every Employee shall have necessary work breaks in order to avoid fatigue. These scheduled breaks will apply to both driving and on-site hours. The following shall be a minimum:
 - 15 Minutes each 2.5 hours
 - 30 Minutes after 5 Hours
 - 30 Minutes after 10 Hours
2. No Workers shall work more than:
 - 12 hours per day
 - 24 Days Continuous
3. Unfamiliar or irregular work should be avoided.

Equipment and Evaluation

1. EVOLUTION MAINTENANCE will provide equipment such as anti-fatigue mats for standing, lift assist devices for repetitive lifting and other ergonomic devices as deemed appropriate, chairs for workers to sit periodically and will provide periodic rest breaks for personnel.
2. EVOLUTION MAINTENANCE will also periodically analyze and evaluate work tasks to control fatigue.

Training

1. EVOLUTION MAINTENANCE is committed to ensuring that all employees are competent to perform their tasks including:
2. Fatigue management and health issues.
3. EVOLUTION MAINTENANCE will provide initial and annual training on how to recognize fatigue, how to control fatigue through appropriate work and personal habits and reporting of fatigue to supervision.
4. A record of individual fatigues training and competency will be maintained.

Driver Training Policy Supplement

Motor Vehicle Safety Program

Purpose

This written Motor Vehicle Safety Program establishes guidelines to ensure that we hire capable operators, only allow eligible operators to drive a "covered motor vehicle," train and supervise operators, and maintain vehicles properly. A "covered motor vehicle" is a motor vehicle that is owned, leased, or rented by the company or is a driver-owned vehicle operated during work time. An **EVOLUTION MAINTENANCE** employee may be assigned to use a company vehicle to visit clients, make deliveries, attend meetings, pick up supplies, or to do a variety of other tasks. When driving is part of the job, like every other task, it has to be done safely. Adherence to this written program can improve traffic safety performance, minimize the risk of motor vehicle incidents, and help to keep our employees safe and our costs as low as possible. Management leads, supports, and enforces this program; but employee input is essential for its success. **EVOLUTION MAINTENANCE** will comply with all Federal and State agency requirements.

Administration

The **EVOLUTION MAINTENANCE** Safety Manager is our Motor Vehicle Safety Program Administrator. The Program Administrator coordinates the Motor Vehicle Operation Program elements for our company. This person is responsible for setting up and managing the program so that managers, supervisors, and employees know what our company expects. The Safety Manager will examine our existing policies and practices to ensure that they encourage and do not discourage reporting and participation in our program. In this way, early reporting of motor vehicle incidents and hazards and meaningful employee participation in the program are more likely to occur. All company incentive programs are designed to reward safe motor vehicle operation (such as active participation in the program, the identification of motor vehicle hazards in the workplace, and the reporting of motor vehicle incidents early), rather than to reward employees for having fewer or lower rates of motor vehicle incidents. The responsibility and authority to allow an employee to operate an **EVOLUTION MAINTENANCE** vehicle lies squarely on the shoulders of the **EVOLUTION MAINTENANCE** Management Representative in charge of the keys to the vehicle that will be driven. In order for this program to be administratively effective, good judgment and correct choices must be made by the person in charge of their section or group of employees and vehicles. Prior to the assignment of any vehicle to any employee or prior to allowing an employee to drive their own vehicle on Company business or the continuation of driving any vehicle, **EVOLUTION MAINTENANCE** or driver owned vehicle, the following will be reviewed for the criteria below.

A current valid state driver's license with no "Status Actions"; he/she must be at least 21 years of age to drive a CMV or 18 years of age or older to drive a Fleet Vehicle. A review of the driving record (3 years back initially, then annual thereafter) will be done. If the MVR indicates no violations, or the following minor violations, the employee may be considered for qualification by **EVOLUTION MAINTENANCE** management.

They are:

- conviction of one or more minor moving violations, as long as no more than 6 points have been assessed

- minor accident (no injuries) Note: If the driver/operator is able to remove the citation by going to traffic school, **EVOLUTION MAINTENANCE** will take this action into consideration for final qualification of the driver.

If the employee's MVR indicates the following major violations, then the employee is NOT qualified to drive for **EVOLUTION MAINTENANCE**:

- Operating a vehicle under the influence of a drug or alcohol
- Implied Consent Refusal (refusal to take blood alcohol test and or urine analysis)
- Committing homicide, manslaughter or aggravated assault with a vehicle
- Failing to stop if you are involved in a traffic accident
- Reckless driving
- Felony speeding
- License Suspension or Revocation

Notification by **EVOLUTION MAINTENANCE** insurance carrier that the employee is ineligible for auto insurance coverage will cause the driver to be ineligible to drive. The above listed violations should not be considered all inclusive, and these are not the only major violations that would disqualify the employee as a **EVOLUTION MAINTENANCE** driver. Management reserves the right to make the final decision as to whether the employee will be qualified to drive for **EVOLUTION MAINTENANCE**.

Definitions

Fleet Vehicle

Any motor vehicle a company owns or leases that is used in the normal operations of a company. Vehicles which are used in the operation of a company but are owned by company employees are not fleet vehicles. Fleet vehicles include gasoline/diesel powered vehicles and alternative-fuel vehicles. Commercial driver's license (CDL) A license issued to an individual by a State or other jurisdiction of domicile, in accordance with the standards contained in this part, which authorizes the individual to operate a class of a commercial motor vehicle.

Commercial motor vehicle (CMV)

A motor vehicle or combination of motor vehicles used in commerce to transport passengers or property if the motor vehicle:

- Has a gross combination weight rating or gross combination weight of 11,794 kilograms or more (26,001 pounds or more), whichever is greater (including) towed unit(s) with a gross vehicle weight rating or gross vehicle weight of more than 4,536 kilograms (10,001 pounds), whichever is greater; or
- Has a gross vehicle rating, gross combination weight rating, gross vehicle weight or gross combination weight of 4,536 kg (10,001 lbs.) or more; or
- Is designed or used to transport more than 8 passengers for compensation or more than 15 passengers without compensation; or
- Is of any size and is used in the transportation of hazardous materials.

Gross combination weight rating (GCWR)

The value specified by the manufacturer as the loaded weight of a combination (articulated) vehicle. In the absence of a value specified by the manufacturer, GCWR will be determined by adding the GVWR of the power unit and the total weight of the towed unit and any load thereon.

Gross vehicle weight rating (GVWR)

The value specified by the manufacturer as the loaded weight of a single vehicle. Out-of-service order (OOS) A declaration by an authorized enforcement officer of a Federal, State, Canadian, Mexican, or local jurisdiction that a driver, a commercial motor vehicle, or a motor carrier operation, is out-of-service pursuant to FMCSR 386.72, 392.5, 395.13, 396.9, or compatible laws, or the North American Uniform Out-of-Service Criteria.

Motor vehicle

A vehicle, machine, tractor, trailer, or semitrailer propelled or drawn by mechanical power that is used on highways.

Commercial Driver Qualifications (CMV and CDL)

A person shall not drive a commercial motor vehicle unless he/she is qualified to drive a commercial motor vehicle. **EVOLUTION MAINTENANCE** shall not require or permit a person to drive a commercial motor vehicle unless that person is qualified to drive a commercial motor vehicle.

A person is qualified to drive a CMV:

1. If he/she at least 21 years old;
2. Can read and speak the English language sufficiently to converse with the general public, to understand highway traffic signs and signals in the English language, to respond to official inquiries, and to make entries on reports and records;
3. Can, by reason of experience, training, or both, safely operate the type of commercial motor vehicle he/she drives;
4. Is physically qualified to drive a commercial motor vehicle in accordance with FMCSR's Physical Qualifications and Examinations;
5. Has a currently valid commercial motor vehicle operator's license issued only by one State or jurisdiction (for GVWs or GCVWs of 26,001+ lbs.);
6. Has prepared and furnished **EVOLUTION MAINTENANCE** with the list of violations or the Certificate of Violations;
7. Is not disqualified to drive a commercial motor vehicle under FMCSR §391.15; and
8. Has successfully completed a driver's road test and has been issued a certificate of driver's road test, or has presented an operator's license or a certificate of road test which we may accept as equivalent to a road test under FMCSR §391.33.

Final determination will be the responsibility of **EVOLUTION MAINTENANCE** Management with the advice of the Safety Manager.

All commercial drivers for **EVOLUTION MAINTENANCE** must always be prepared for their driving of a **EVOLUTION MAINTENANCE** CMV. There are many items, mainly documentation and proofs. Most CMV/CDL drivers will need:

- Certificate of Registration
- Hours of service records (log book)
- Registration papers (cab cards, permits, etc.)
- Proof of insurance
- Driver's license documents and any related certificates
- Special permits for oversize and overweight loads, if required
- Hazardous materials shipping papers, if required
- Fuel tax permits (IFTA)
- Bills/Invoices, etc. showing content and origin of agricultural products, if required
- Evidence of financial responsibility
- Only pre-qualified and authorized drivers may operate **EVOLUTION MAINTENANCE** company owned, rented, leased or their personal vehicle, used for company business.

Cell Phone Use and Texting

There shall be no cell phone usage by any **EVOLUTION MAINTENANCE** CMV/CDL drivers while operating a company vehicle, unless that vehicle or the driver's phone is equipped with a "HandsFree" operating system. The commercial driver should pull over at a safe location and then return the phone call if necessary. There shall be NO TEXTING while driving by anyone operating a vehicle (Fleet or CMV); the driver shall read or create texts only when stopped and parked in a safe location for him/her and the vehicle.

Driving Safety

While it's important to understand the company vehicle safety program, as a driver, you have to put safe driving techniques into practice each time you get behind the wheel. The following safe driving strategies are under the driver's control:

- Make sure the vehicle is safe to operate.
- Bring supplies you may need in case of an emergency.
- Wear your seat belt.
- Drive defensively, not aggressively.
- Pay attention to your driving, and avoid distractions.
- Only drive when you're alert and fully awake.
- Never drive under the influence of alcohol, medications, or illegal drugs.

Note: Seat belts are the single most effective means of reducing deaths and serious injuries in traffic crashes.

Vehicle inspections

Safe driving starts before you turn the ignition key. Always inspect the vehicle before you start your trip. Make sure:

- The vehicle does not have any visible damage that affects its safe operation.
- The tires are properly inflated (use the vehicle manufacturer's recommendations that are typically noted on a sticker inside the door, glove box, or trunk - the pressures stamped

on the tire are not specific to the vehicle). Check the pressure when the tires are cold.

- Tires have sufficient tread depth (tread depth should be at least 1/16 inch).
- The vehicle's fluid levels are correct (oil, brake, transmission, battery, and wiper fluids).
- Belts and hoses are free of blisters, cracks, and cuts.
- The vehicle has plenty of fuel.
- The windshield wipers are in good condition and are functional.
- You are familiar with the location and operation of all the vehicle's controls; and the seat, steering wheel, and mirrors are properly adjusted.
- Headlights, brake lights, turn signals, emergency flashers, and interior lights are working.
- The seat belt is properly adjusted, and it's in good condition.
- The vehicle is equipped with an emergency kit.
- Loose objects are secured so they won't shift during a sudden stop or turn.

Plan for emergencies

In case of a breakdown or accident, your first actions should be to move the car to a safe area, remain in the car (if there is no risk of fire or other danger), and call for help. Some basic provisions to include in an emergency supply kit can include:

- A phone and a list of emergency phone numbers.
- First aid supplies.
- Roadside warning triangles or flares (follow instructions for their safe use).
- A fire extinguisher.
- Water and food.
- Clothing (raincoat; warm clothing, hat, mittens/gloves; comfortable boots/shoes).
- Basic car maintenance tools (a flashlight with fresh batteries; battery jumper cables; a jack, lug nut wrench, and spare tire; water for the radiator; oil; windshield wiper fluid; rags; gloves; etc.).

Be defensive

It's best to always practice defensive driving techniques. Continually check your mirrors, leave enough following distance, and keep a cushion of space around the vehicle in case you need to quickly change lanes or go onto the shoulder. Aggressive driving acts include:

- Speeding.
- Tailgating.
- Failing to signal lane changes.
- Running red lights or stop signs.
- Passing on the right.

Aside from being aggressive, taking these actions can result in getting a ticket. The best advice is to share the road - allow other drivers to merge as needed. Safely move out of an aggressive driver's way; don't become part of a conflict.

Stay focused and alert

Driving is no time to multi-task. Stay focused on the road. Drivers can be distracted by a variety of things:

- Conversations with passengers.

- Eating, drinking, or grooming.
- Tuning the radio or selecting a CD to play.
- Reading maps or directions.
- Using electronic navigation systems.
- Using a cell phone.
- Get a full night of rest before driving.
- Stop and get out of the car to stretch and walk about every two hours.
- Set a realistic goal of how many miles you can safely drive each day.
- Avoid taking medications that cause drowsiness.

What to do in Case of an Accident

Stop at Once! Check for personal injuries and send for an ambulance, if needed. Do not leave the scene but ask for the assistance of bystanders.

- If Fire or Smoke Is Present evacuate vehicle occupants to a safe location. If stalled on a railroad track, evacuate occupants to a safe location away and at a right angle from the tracks.
- If Fire, Smoke, or Spilled Fuel is Present send for the fire department. Do not leave the scene; ask a bystander to call the fire department. If possible, use a spill kit to absorb the spill.

Protect the Scene. Set emergency warning devices to prevent further injury or damage. Secure your vehicle and its contents from theft.

Secure Assistance of the police whenever possible. Record names and badge numbers. Do not leave without law enforcement presence on scene.

Record Names, Addresses, and Phone Numbers of all witnesses, injured and driver(s) and their passengers; record vehicle license numbers. Take complete pictures with cell phone or camera.

Do Not Argue! Make no statement except to the proper authorities and to Management. Sign only official police reports. Do not make statements regarding the operating condition of your vehicle and do not admit fault.

Report the Incident to Your Supervisor/Safety Manager IMMEDIATELY after first aid has been given, authorities have been notified, the scene has been protected and you are able to do so. **Complete the Incident Report** at the scene (or with your Supervisor ASAP) and as thoroughly as possible. Make sure the Safety Manager gets copies of all incident paperwork and related information within 24 hours.

If You Strike an Unattended Vehicle and cannot locate the owner, leave a note with your name and the company's address and phone number, get the vehicle description, VIN number and license plate number.

A motor vehicle incident is a negative occurrence that involves a "covered" motor vehicle and that caused or could have caused injury, illness, or property damage.

All motor vehicle incidents will be investigated to determine their causes and whether or not the incidents were preventable. Understanding the root causes of incidents and why they are happening, regardless of fault, forms the basis for eliminating them in the future.

If any of the following traffic violations occur, whether in the driver's personal vehicle (on or off company business) or while operating a owned, rented, or leased vehicle, suspension of driving or operating any vehicle will be immediate:

- Operating a vehicle under the influence of a drug or alcohol
- Implied Consent Refusal (refusal to take blood alcohol test and or urine analysis)
- Committing homicide, manslaughter or aggravated assault with a vehicle
- Failing to stop if you are involved in a traffic accident
- Reckless driving
- Felony speeding
- License Suspension or Revocation
- Cancellation of the employee's auto insurance by the employee's insurance carrier.

The above listed violations should not be considered all inclusive, and these are not the only major violations that would suspend the employee as a driver. Management reserves the right to make the final decision. **EVOLUTION MAINTENANCE** follows 49 CFR Subpart C 383.33 for CMV drivers. If the driver is found to not have reported to **EVOLUTION MAINTENANCE** any traffic violation, suspension or revocation of their license, by reviewing their MVR on an annual basis or as often as deemed necessary, the driver will be subjected to disciplinary action up to and including termination. It is the overall responsibility of all drivers to maintain proper and acceptable driving records and all licenses required for their position.

Drugs and Alcohol

In accordance with our Drugs and Alcohol Policy driving a company owned, rented, leased or personal vehicle on company business, while under the influence of drugs or alcohol shall result in immediate termination.

Training

Under no circumstances may an employee operate a covered motor vehicle until he/she has successfully completed this company's initial training on motor vehicle safety. Training is done by reading material and watching a presentation. The **EVOLUTION MAINTENANCE** supervisor of that individual is responsible for conducting training, if he/she assigns that person to driving duties. **EVOLUTION MAINTENANCE** requires a preceding 3-year, state issued, driving record (Motor Vehicle Report "MVR"), for each driver-applicant operating a vehicle which is company owned, rented, or leased as well as any personal vehicle used on Company business. If the driver has an out-of-state license, they will be required to submit their MVR from that state for our review. The MVR will be reviewed by a responsible management official for determination of qualification of each driver. **EVOLUTION MAINTENANCE** shall also obtain a MVR on each driver thereafter on an annual basis.

The company training program includes the topics of driving that the particular driver will have to deal with. Through training we ensure that motor vehicle operators are knowledgeable in practices such as **EVOLUTION MAINTENANCE** expectation; impaired, fatigued, aggressive, distracted, and defensive driving; seat belt use; vehicle inspection; security and motor vehicle incident procedures; cargo securement; handling hazardous materials and spills; and safety features and emergency equipment.

Driver training must include the following:

1. Pre-trip safety inspection;
2. Use of vehicle controls and equipment, including operation of emergency equipment;
3. Operation of vehicle, including turning, backing, braking, parking, handling, and vehicle characteristics including those that affect vehicle stability, such as effects of braking and curves, effects of speed on vehicle control, dangers associated with maneuvering through curves, dangers associated with weather or road conditions that a driver may experience (e.g., blizzards, mountainous terrain, high winds), and high center of gravity;
4. Procedures for maneuvering tunnels, bridges, and railroad crossings;
5. Requirements pertaining to attendance of vehicles, parking, smoking, routing, and incident reporting; and
6. Loading and unloading of materials, including—
 - (a) Compatibility and segregation of cargo in a mixed load;
 - (b) Package handling methods; and
 - (c) Load securement.

After an employee has completed the training program, management will determine whether the employee can safely operate a motor vehicle. If the employee passes, management places a training record in the employee's personnel file or DQ file.

Evaluation

Individual assigned management evaluates each trained operator to verify that the employee has retained and uses the knowledge and skills needed to operate safely. If the evaluation shows that the employee is lacking the appropriate skills and knowledge, the employee is retrained. The Safety Manager also reviews motor vehicle records periodically to ensure that operators maintain a good driving record. The results of each check are made known to the GMs, HR and COO.

An operator may lose his/her privilege to operate a company vehicle for work or operate a company-owned-leased-rented vehicle for personal use, if after an incident(s), accident(s), or after a violation(s) it was discovered to be the driver's fault and preventable; the Safety manager may recommend the operator receive additional training if warranted.

Besides all the safety issues surrounding the driving of a commercial motor vehicle, there are other safety issues that can affect a driver. Examples of these are back strain and lifting concerns; slip- trip-falls; and personal safety in parking lots and other places.

Training and policy documents have been developed to address some of these driver safety topics. It is inherent that problems may occasionally arise in this Motor Vehicle Safety Program. By having our program thoroughly evaluated, periodically and as necessary, and promptly taking action to correct any deficiencies in our program, we can eliminate problems effectively. Note: The occurrence of a motor vehicle incident does not in itself mean that the program is ineffective.

All employees have a general obligation to work and drive safely

Tool Safety Policy Supplement

Purpose:

There are various types of tools and equipment used in the workplace for many different purposes. Examples include, but are not limited to, portable hand tools, power tools, pneumatic tools, and powder-actuated tools.

The purpose of this policy is to provide employees with appropriate knowledge relating to the care and use of tools and equipment and to protect employees from hazards associated with improper use of tools and equipment and defective and poorly maintained tools and equipment.

Policy:

Only trained and/or experienced employees may use/operate tools or equipment. Tools and equipment shall not be modified, and they are to be used only for their designed purpose. It shall be the responsibility of the employee to inspect tools and equipment prior to use and to use all tools and equipment in a safe manner. Employees observed abusing, altering, modifying or misusing tools or equipment shall be subject to disciplinary action. Employees shall wear all appropriate personal protective equipment while using tools and equipment. Additionally, if a tool or piece of equipment is found to be defective, the tool/equipment shall be red-tagged, taken out of service until it can be replaced or repaired by a qualified person.

It shall be the responsibility Project Manager or Site Superintendent to designate a competent person who will be assigned to be responsible for testing/inspecting and repairing all tools and equipment. All periodic inspections, maintenance and repairs of tools or equipment shall be documented.

Procedure:

General Tool Safety:

Many serious injuries have resulted from the improper use of tools and equipment. Many of these injuries could have been prevented if the following rules were followed:

Inspection and Maintenance:

All tools shall be identified and inventoried either individually or by group.

All tools in the inventory shall have a documented inspection at least once every six months. In addition to these periodic documented inspections all tools shall be inspected prior to issue and upon return by the tool room attendants and prior to each use by the user.

All tools will be kept in good working condition with no modifications.

All periodic inspections and all maintenance & repairs shall be documented. Completed forms shall be kept in a binder in the tool room or tool trailer for one year. The binder shall contain a copy of the inspection checklist for the type for tools and/or equipment being inspected.

- **Selection**

Use the right tool for the task instead of trying to make the wrong one fit.

- **Use**

Keep control of yourself, the tool, and the job. When applying force with a tool, remember that it may slip, break, or just suddenly do its job. Watch your hands and your balance (body mechanics) to avoid injury.

Vibration Absorbing Gloves are to be made available to workers using pneumatic impact guns or other vibrating equipment. These gloves are required PPE for worker's operating heavy vibrating tools (i.e. jack hammers, 90 guns, impact guns etc.). The use of these gloves are designed to dampen vibration, dissipate impact and absorb shock, they can

assist in the prevention of cumulative trauma injury often associated with operating this type of equipment. They only work if you use them.

Select the right protective equipment for the task and use it properly.

Do not use tools and equipment that you have not been trained to use.

- **Care**

Take proper care of your tools and equipment. Keep them stored where they will not get damaged and will not present a hazard.

Check your tools and equipment prior to use for defects, wear, or damage. Immediately remove from service and tag any defective tools. Damaged tools shall be turned into the tool room for repair or replacement.

- **Supervision**

Supervisors shall be responsible for ensuring that employees are trained before using a specific tool. Watch your employees at work. Ask them about their immediate assignment and take an interest in finding the safest way to do the job. Then follow up to ensure that the tools and equipment in your area are being used safely.

Hand Tool Safety

- Hand tools shall only be used for the purpose for which they are intended.
- All appropriate PPE will be worn while using hand tools.
- Wrenches, including adjustable, pipe and socket shall not be used when jaws are sprung to the point of slippage.
- Pipe wrench parts (i.e., jaws) are not to be removed and used for anything other than the manufactured use.
- The use of snipes and cheater bars or double wrenching to gain leverage **is prohibited**.
- Always use tool holder while using hammer and knocker wrenches.

Hand tools shall be tagged and removed from service if any of the following defects are present:

- Impact tools, such as hammers, flange wedges chisels, drift pins, pin bars and knocker wrenches with visible signs of mushrooming, cracking or bending.
- Wooden handle tools, such as hammers, picks, shovels, and brooms with visible sign of cracking, loosening or splintering of the handle.
- Wrenches, such as adjustable, combo and pipe with visible signs of bending, cracking, defective handles or other defects that impair their strength.

Electrical Power Tool Safety

- All appropriate PPE will be worn while using power tools.
- Be sure that the proper permit has been obtained prior to use of electrical power tools.
- GFCI's are to be used with all portable electric equipment. GFCI's are to be inspected and tested prior to each use.
- **Do not** connect electrical power unless the operating switch is turned off.
- Employee shall avoid loose fitting clothing when operating power tools.
- The power source on tools shall be physically disconnected prior to attempting any repairs or attachment replacement.

- Protective guards on power tools **shall not** be removed, altered or modified.
- Trigger/switch locks on power tools are prohibited.
- All electrical tools and power cords must be inspected per the Electrical Equipment Safety and Inspection Policy.
- Electrical tools and power cords must display the current inspection color code for the current inspection period to it being placed in service.
- Electrical tools **shall not** be hoisted or carried by their power cords.
- Cords are tripping hazards. Route them so as to minimize interference in walkways. Overhead is preferred.

Electrical power tools shall be tagged and removed from service if any of the following defects are present:

- Electrical power tool cord does not have current inspection color code.
- Power cord is frayed, cut or damaged. The use of electrical tape to cover damage to cords **is prohibited**.
- Defective or faulty on/off switches.
- Loose or defective components

Air Power Tool Safety

- All hoses exceeding 1/2" inside diameter shall have a safety device at the source of supply or branch line to reduce pressure in case of hose failure.
- Chicago fittings shall be pinned.
- Attachments on air tools shall be secured by retainer pins and rings.
- **Do not** connect air unless the operating switch is turned off.
- **Do not** disconnect tool until air supply is shut off and air pressure is bled off.
- Air power tools **shall not** be hoisted or carried by their hoses.
- Hoses are tripping hazards. Route them so as to minimize interference in walkways. Overhead is preferred.

Air power tools shall be tagged and removed from service if any of the following defects are present:

- Air power tools, such as air power grinders, impact wrenches, German hacksaws with visible signs of deformities in the body of the tool, improperly functioning actuator, bent or deformed blades, or any signs of obvious damage to the air supply line fittings.
- Hoses must be visually inspected for cracking, signs of aging, worn or damaged connecting fittings, or any other obvious deformities, such as blistering or bulges.

Powder Actuated Tool Safety

- Only employees who have received an approved training course and license for the particular tool to be used may operate powder-actuated tools.
- Tool room personnel shall not issue powder-actuated tools unless the person requesting

the tool can provide a current license for that tool.

- Powder-actuated tools shall be tested prior to use to ensure all safeties are functioning.
- The fastener **shall not** be loaded until ready for the shot. The tool **shall not** be left unattended unless it is unloaded.
- **Never** point either an empty or loaded tool at any person.
- Keep both hands and feet clear of the open-end of the barrel.
- In the event of a misfire, the operator shall hold the tool firmly against the work surface for a period of 30 seconds and then follow manufacturer's instructions.
- Personnel, other than the operator of the tool, must stay clear of the area where the tool is being used.
- Operators of powder-actuated tools shall wear goggles for eye protection while operating these tools.
- A sign at least 8 x 10 inches, using boldface type no less than 1 inch in height, shall be posted within 50 feet of the area where the tool is being used. The sign shall bear the following wording:

CAUTION
POWDER-ACTUATED TOOL IN USE

Powder-actuated tools shall be tagged and removed from service if any of the following defects are present:

- Tool has visible signs of worn or damaged parts.
- Missing or malfunctioning parts or accessories.
- Missing operator's instruction manual or missing power load and fastener chart.
- Tool misfires more than one time during use.

Abrasive Wheel Machinery

Abrasive wheels shall be used only on machines provided with safety guards as defined:

- The safety guard shall be mounted so as to maintain proper alignment with the wheel, and the strength of the fastenings shall exceed the strength of the guard.
- Grinding machines shall be equipped with flanges
- Abrasive wheel machinery guards shall meet the design specifications of the American National Standard Safety Code for the Use, Care, and Protection of Abrasive Wheels, ANSI B7.1-1970, which is incorporated by reference as specified in Sec. 1910.6.
- Never exceed the maximum wheel speed RPM. (every when is marked)
- Check the speed marked on the wheel and compare it to the speed on the grinder.
- When installing the wheel, check for cracks and defects. Ensure mounting flanges are clean and the mounting blotters are used. Do not over tighten the mounting nut.

Elevated Platforms/Aerial Lifts Policy Supplement

Aerial personnel lifts shall be operated, maintained, and controlled in a safe manner.

Purpose

To define the procedures and standards that apply to the care, control, maintenance, inspection, and operation of aerial personnel lifts.

Scope

Applies to all **EVOLUTION MAINTENANCE** work sites, i.e., **EVOLUTION MAINTENANCE** offices, client job sites, etc., requiring the use of aerial personnel lifts.

Definitions

- **Aerial personnel lift** means any vehicle-mounted device, telescoping or articulating, or both, which is used to position personnel. These include extensible boom platforms, aerial ladders, articulating boom platforms, vertical towers, and a combination of any of the above.
- **Articulating boom platform** means an aerial personnel lift with two or more hinged boom sections.
- **Extension boom platform** means an aerial personnel lift (except ladders) with a telescopic or extension boom. Telescopic derricks with personnel platform attachments shall be considered to be extension boom platforms when used with a personnel platform.
- **Insulated aerial device** means an aerial personnel lift designed for work on energized lines and apparatus.
- **Platform** means any personnel-carrying device (basket or bucket) that is a component of an aerial personnel lift.
- **Vertical tower** means an aerial personnel lift designed to elevate a platform in a substantially vertical axis.

Requirements

General

Equipment that is not designed for use as a personnel lift shall not be used as a personnel lift (e.g., front end loader buckets, backhoe buckets and cranes).

- Only trained personnel who have been deemed competent and designated by their supervisor are authorized to operate aerial personnel lifts.
- Lift controls shall be tested prior to use to determine that such controls are in safe working condition.

- Review and follow electrical safety requirements for use of aerial personnel lifts as found in the Electrical (Qualified) Policy Supplement of this document.
- Review and follow fall protection requirements for aerial personnel lifts identified in Personnel should not be permitted to stand on the rails of aerial devices. A body harness shall be worn and a lanyard appropriately attached.
- Personnel should not be permitted to stand on the rails of aerial devices. A body harness shall be worn and a lanyard appropriately attached.
- Personnel shall not be permitted to use an aerial personnel lift as a means of access. In the event that there are no other means of access, specific procedures including rationale (feasibly), duration, evacuation, fall protection, etc. shall be developed and reviewed with affected employees prior to implementation.
- Large or excessive amounts of material, excluding tools, shall not be transported in an aerial personnel lift. Other material lifts would be necessary for such activities.
- Load limits specified by the manufacturer shall not be exceeded.
- Aerial personnel lifts that can operate horizontally shall set brakes and outriggers, when used, be positioned on pads or a solid surface, and chock wheels before using on an incline.

Boom and Ladder Lift Units

Before ladder trucks and tower trucks are moved from site to site, the aerial ladders shall be secured in the lower traveling position by the locking device above the truck cab, and the manually operated device at the base of the ladder, or by other equally effective means (e.g., cradles which prevent rotation of the ladder in combination with positive acting linear actuators).

An aerial lift truck may not be moved when the boom is elevated in a working position with personnel in the basket, except for equipment that is specifically designed for this type of operation.

Articulating boom and extendible boom platforms, primarily designed as personnel carriers, shall have both platform (upper) and lower controls. Upper controls shall be in or beside the platform within easy reach of the operator. Lower controls shall provide for overriding the upper controls. Controls shall be plainly marked as to their function. Lower-level controls shall not be operated unless permission has been obtained from the employee in the lift, except in case of emergency.

The insulated aerial devices shall not be altered in any manner that might reduce its insulating value. The insulated boom of a lift shall be regularly maintained and certified to ensure the continued insulating properties.

Before moving an aerial lift for travel, the boom(s) shall be inspected to see that it is properly cradled and outriggers are in stowed position.

Modifications

Aerial lifts may be "field modified" for uses other than those intended by the manufacturer, provided the modification has been certified in writing.

References

OSHA CFR 29 1926.453, .952(b), and .955(e)(12)

OSHA CFR 29 1910.67(b)(2)

Scaffolding Policy Supplement

PURPOSE

It is EVOLUTION MAINTENANCE's, hereafter referred to as "The Company", purpose in issuing these procedures to further ensure a safe workplace based on the following formal, written procedures for scaffold work. These procedures should be reviewed and updated as needed to comply with new safety regulations, best industry practices, and business demands.

Application

This general scaffold plan applies to:

- All The Company workers who perform work while on a scaffold.
- All The Company workers who are involved in erecting, disassembling, moving, operating, repairing, maintaining, or inspecting scaffolds.

General Procedures

Capacity

- Each scaffold and scaffold component will support, without failure, its own weight and at least four times the maximum intended load applied or transmitted to it.
- When using non-adjustable suspension scaffolds, each suspension rope, including connecting hardware, will support, without failure, at least six times the maximum intended load applied or transmitted to that rope.
- Direct connections to roofs and floors, and counterweights used to balance adjustable suspension scaffolds, shall be capable of resisting at least 4 times the tipping moment imposed by the scaffold operating at the rated load of the hoist, or 1.5 (minimum) times the tipping moment imposed by the scaffold operating at the stall load of the hoist, whichever is greater.
- Each suspension rope, including connecting hardware, used on non-adjustable suspension scaffolds shall be capable of supporting, without failure, at least 6 times the maximum intended load applied or transmitted to that rope.
- The stall load of any scaffold hoist shall not exceed 3 times its rated load.

Scaffolds shall be designed by a qualified person and shall be constructed and loaded in accordance with that design.

Platform Construction

Platform – Decks

- Use wooden and metal decks according to job requirements, standards, regulations, and manufacturer's instructions.
- Only cleat planks at the ends to prevent lengthwise movement. Wiring down planks can also prevent movement, provided wire does not create a tripping hazard. Where planks overlap, rest the cleated end on the support. Do not use cleats elsewhere on the plank to prevent splitting.
- Ensure that adjoining planks are of uniform thickness for an even platform.
- Lay planks side by side across the full width of the scaffold.
- Check scaffold planks for large knots, worm holes, steeply sloping grain at the edges, spike knots, and splits. Splits wider than 10 mm (3/8 in), lengthwise closer than 75 mm (3 in.) to the edge of the plank, or lengthwise longer than ½ the length of the plank is not acceptable. Discard immediately any planks showing these or other defects.
- Check hooks and hardware of prefabricated platform units regularly for looseness, distortion, and cracks. Damage can occur if the platforms are dropped or thrown.
- Clean ice, snow, oil, and grease off planks. Platform decks should be slip-resistant and should not accumulate water.
- Inspect planks on a regular basis while on the scaffold. Weather, rot, and general use can deteriorate the planks.
- Do not jump on the planks to test their strength. Jumping can cause undetectable damage.
- Ensure that all working platforms are about 500 mm (20 in.) minimum in width.
- Use a minimum of 50 mm (2 in.) x 250 mm (10 in.) Number 1 Grade spruce-pine-fir (SPF) planking or better.
- Overlap or extend planking 150 mm (6 in.) to 300 mm (12 in.) and cleat at each end to prevent planking from slipping and blowing off.
- Support planks at intervals not exceeding 3m (10 ft) for light work and 2.1 m (7 ft.) for heavy work (bricklaying, masonry).
- Check with officials in your local jurisdiction as recommendations may vary.
- Stack planks on a firm level surface to prevent warping.
- Band the ends of the boards. Do not paint as the paint can conceal defects.
- Do not use scaffold planks as a base to stack materials, or as ramps or temporary roadways.

Supported Scaffolds

- Refer to safety regulations and standards for design and assembly requirements.
- Choose the right scaffold system for the job.
- Erect all scaffold parts according to the manufacturer's instructions.
- Select scaffold according to:
 - height required
 - type and duration of work

- range of weather conditions
 - weight of workers, materials, and equipment
 - location
 - requirements for pedestrian traffic
- Erect scaffold on a base that will support all the loads that will be applied including materials and equipment.
 - Make sure the backfill is compact and level. Replace mud and soft soil with gravel or crushed stone.
 - Provide adequate sills for scaffold posts and use base plates.
 - Set scaffold feet centrally on mudsills consisting of 50x250 mm (2x10 in.) planks. Sills should extend at least 610 mm (2 ft.) beyond the scaffold base and be long enough to extend under at least two scaffold feet.
 - Install scaffold with jackscrews (adjusting screws). They allow for minor adjustments to help keep scaffold plumb and level.
 - Take extra precautions when erecting scaffold on frozen ground. Thawing soil can become water-soaked and lose its ability to bear weight.
 - Brace both sides of every frame for the vertical plane. Install horizontal bracing at the joint of every third tier of frames. This bracing is often attached to the point where the scaffold is tied to the structure.
 - Do not force braces to fit. Level the scaffold until a proper fit can be made easily.
 - Use coupling devices to join frames to prevent the joints from pulling apart.
 - Do not use nails or other devices in the place of proper retention parts as recommended by the manufacturer.
 - Tie or brace the scaffold to a solid structure as appropriate.
 - Use a debris net, catch platform or similar structure where appropriate to catch falling objects.
 - Do not allow the ratio of scaffold height to base width to exceed 3 to 1 unless the scaffold is:
 - tied into a structure
 - stabilized by guy wires
 - secured by outriggers or stabilizers to maintain the ratio

Suspension Scaffolds

- Ensure that the platform is installed and maintained according to job requirements, safety regulations, standards, and the manufacturer's specifications.
- Inspect all equipment before erecting and before each shift.
- Use a separate safety harness attached to an independent lifeline for each worker. Maintain lanyard attachment at highest point possible.
- Ensure that suspended platform roof beams and attachments are secure.
- Ensure that the roof or parapet wall is structurally sound to support either outriggers or cornice hooks.
- Check for kinked or damaged ropes.

- Secure all ropes at anchor ends.
- Ensure that all safety equipment, stops, override switches and brakes function properly.
- Prevent contact between welding or grinding equipment and wire safety or suspension ropes.
- Secure hand tools to the platform.
- Ensure that the power source is secured and properly grounded.
- Secure platform when not in use.
- Ensure that guardrails and toe boards are in place.
- Extend suspension ropes completely to the ground or terminate with wire rope clips to prevent the stage from running off the end of the ropes.
- Test by raising the fully loaded platform a few feet off the ground before going aloft.
- Do not exceed platform load capacity.
- Do not enter or leave the platform other than at ground level or at other safe access points.
- Do not allow electric cables or connections to lie in gutters or other areas where water can collect.
- Do not work near exposed electrical circuits or equipment.
- Do not join platforms unless they are designed for this purpose.
- Do not use damaged or defective equipment.
- Do not alter, substitute, or remove components of platform.
- Do not use lifeline for raising or lowering tools or materials.
- Do not move work platform unless all workers on it are protected by individual safety belts and lines.

Rolling Scaffold

- Assemble the rolling scaffold according to manufacturer's instructions.
- Ensure that the surface on which the scaffold is moved is level and without holes or obstructions.
- Brace all rolling scaffolds horizontally and diagonally.
- Cleat or secure all planks.
- Prevent joints from separating.
- Secure access ladders.
- Make sure the platform has appropriate guardrails (hand, mid, toe).
- Ensure that each wheel or castor is equipped with brakes to prevent rolling and swiveling.
- Lock the caster brakes before climbing onto scaffold.
- Secure or remove all material, equipment, and personnel from platform before moving it.
- Push towards the base when moving.
- Use the built-in access ladders to reach the platform.
- Refer to safety regulations for height stability requirements.

- Do not stay on the scaffold when it is being moved. If a worker must remain on the scaffold, make sure the worker is secured to the building (not the scaffold) with an appropriate safety harness and lanyard.
- Do not try to move a rolling scaffold without enough help. Watch out for slopes, holes, debris, and overhead obstructions.
- Do not extend adjusting screws more than the manufacturer recommends.
- Do not allow the working platform height to exceed three times the base width unless it is guyed and equipped with outriggers or otherwise stabilized.
- Do not use powered devices to move scaffolds.
- Do not lean access ladders against rolling scaffolds.
- Do not over-reach from the scaffold.
- Do not climb using the frame.

Fall Protection Plan

Fall protection planning is critical to the safety and well-being of our workers. The Company's fall protection plan follows certain requirements that are different depending on the type of scaffold we are using. In this plan we address fall protection for our scaffold erectors and dismantlers separately. One fact never changes. We know we must provide fall protection for any worker on a scaffold more than 10 feet above a lower level.

Workers

This fall protection plan for our workers is for the following type(s) of scaffold(s):

- Single- or two-point adjustable suspension scaffold-We will protect each worker on our single- or two-point adjustable suspension scaffolds by a personal fall arrest system. Our personal fall arrest systems:
 - Meet the requirements of your local jurisdiction.
 - Are attached by lanyard to a vertical lifeline, horizontal lifeline, or scaffold structural member.

NOTE: Vertical lifelines shall not be used when overhead components, such as overhead protection or additional platform levels, are part of a single-point or two-point adjustable suspension scaffold.

When vertical lifelines are used, they shall be fastened to a fixed safe point of anchorage, shall be independent of the scaffold, and shall be protected from sharp edges and abrasion. Safe points of anchorage include structural members of buildings, but do not include standpipes, vents, other piping systems, electrical conduit, outrigger beams, or counterweights.

When horizontal lifelines are used, they shall be secured to two or more structural members of the scaffold, or they may be looped around both suspension and independent suspension lines

(on scaffolds so equipped) above the hoist and brake attached to the end of the scaffold. Horizontal lifelines shall not be attached only to the suspension ropes.

When lanyards are connected to horizontal lifelines or structural members on a single-point or two-point adjustable suspension scaffold, the scaffold shall be equipped with additional independent support lines and automatic locking devices capable of stopping the fall of the scaffold in the event one or both suspension ropes fail. The independent support lines shall be equal in number and strength to the suspension ropes.

Vertical lifelines, independent support lines, and suspension ropes shall not be attached to each other, nor shall they be attached to or use the same point of anchorage, nor shall they be attached to the same point on the scaffold or personal fall arrest system.

Using Scaffolds

Site preparation, scaffold erection, fall protection, and gaining access to the working platform are only some of the requirements for scaffold work. While this takes concentration and safe work practices, the most dangerous time can be when workers are concentrating on their work and not aware of the hazards of working from scaffolds. It is critical that workers who use scaffolds be trained, among other things, in the recognition of the hazards associated with the type of scaffold being used and to understand the procedures to control or minimize those hazards. The Company's competent person will inspect all scaffolds and scaffold components for visible defects before each work shift, and after any occurrence that could affect a scaffold's structural integrity. However, in addition to that, all users of scaffolds in this company will know and understand the following safety rules:

- Scaffolds and scaffold components will never be loaded more than their maximum intended loads or rated capacities.
- Debris must not be allowed to accumulate on platforms.
- Scaffolds and scaffold components shall be inspected for visible defects by a competent person before each work shift, and after any occurrence which could affect a scaffold's structural integrity.
- Any part of a scaffold damaged or weakened such that its strength is less than that required by paragraph (a) of this section shall be immediately tagged out, repaired, or replaced, braced to meet those provisions, or removed from service until repaired. An example of tag used in tagging out scaffolding equipment is provided at the back of this program.
- Scaffolds shall not be moved horizontally while workers are on them, unless they have been designed by a registered professional engineer specifically for such movement or, for mobile scaffolds.
- The clearance between scaffolds and power lines shall be as follows: Scaffolds shall not be erected, used, dismantled, altered, or moved such that they or any conductive material handled on them might come closer to exposed and energized power lines.

- Scaffolds shall be erected, moved, dismantled, or altered only under the supervision and direction of a competent person qualified in scaffold erection, moving, dismantling or alteration. Such activities shall be performed only by experienced and trained workers selected for such work by the competent person.
- Workers shall be prohibited from working on scaffolds covered with snow, ice, or other slippery material except as necessary for removal of such materials.
- Where swinging loads are being hoisted onto or near scaffolds such that the loads might contact the scaffold, tag lines or equivalent measures to control the loads shall be used.
- Suspension ropes supporting adjustable suspension scaffolds shall be of a diameter large enough to provide sufficient surface area for the functioning of brake and hoist mechanisms.
- Suspension ropes shall be shielded from heat-producing processes. When acids or other corrosive substances are used on a scaffold, the ropes shall be shielded, treated to protect against the corrosive substances, or shall be of a material that will not be damaged by the substance being used.
- Work on or from scaffolds is prohibited during storms or high winds unless a competent person has determined that it is safe for workers to be on the scaffold and those workers are protected by a personal fall arrest system or wind screens. Wind screens shall not be used unless the scaffold is secured against the anticipated wind forces imposed.
- Debris shall not be allowed to accumulate on platforms.
- Makeshift devices, such as but not limited to boxes and barrels, shall not be used on top of scaffold platforms to increase the working level height of workers.
- Ladders shall not be used on scaffolds to increase the working level height of workers, except on large area scaffolds where employers have satisfied the following criteria:
 - When the ladder is placed against a structure which is not a part of the scaffold, the scaffold shall be secured against the sideways thrust exerted by the ladder
 - The platform units shall be secured to the scaffold to prevent their movement
 - The ladder legs shall be on the same platform or other means shall be provided to stabilize the ladder against unequal platform deflection
 - The ladder legs shall be secured to prevent them from slipping or being pushed off the platform
- Platforms shall not deflect more than 1/60 of the span when loaded.
- To reduce the possibility of welding current arcing through the suspension wire rope when performing welding from suspended scaffolds, the following precautions shall be taken, as applicable:
 - An insulated thimble shall be used to attach each suspension wire rope to its hanging support (such as cornice hook or outrigger). Excess suspension wire rope and any additional independent lines from grounding shall be insulated
 - The suspension wire rope shall be covered with insulating material extending at least 4 feet (1.2 m) above the hoist. If there is a tail line below the hoist, it shall be insulated to prevent contact with the platform. The portion of the tail line that hangs free below the scaffold shall be guided or retained, or both, so that it does not become grounded

- Each hoist shall be covered with insulated protective covers
- In addition to a work lead attachment required by the welding process, a grounding conductor shall be connected from the scaffold to the structure. The size of this conductor shall be at least the size of the welding process work lead, and this conductor shall not be in series with the welding process or the work piece
- If the scaffold grounding lead is disconnected at any time, the welding machine shall be shut off
- An active welding rod or uninsulated welding lead shall not be allowed to contact the scaffold or its suspension system

Prohibited Practices

The following practices will never be tolerated at The Company:

- Scaffold components manufactured by different manufacturers will never be intermixed unless the components fit together without force and the scaffold's structural integrity is maintained.
- Unstable objects will never be used to support scaffolds or platform units. Footings must be level, sound, rigid, and capable of supporting the loaded scaffold without settling or displacement.
- Cross braces will never be used as a means of access.

Duties of Competent and Qualified Persons

Only qualified and competent personnel are allowed to modify scaffolding systems.

Modifications made by non-qualified personnel may create more hazards and are prohibited. If modifications are attempted by non-qualified personnel, they will be subject to disciplinary action up to and including termination of employment.

Tagging

Tags must be placed at each point of entry to the scaffold. This includes access points from ground level and any access points from the structure with which the scaffold is being used.

Doing so ensures that workers are aware of the status and condition of the scaffold, regardless of where they access it. Whatever their color, tags must include:

- The duty rating of the scaffold
- The date on which the scaffold was last inspected
- The name of the competent worker who inspected the scaffold
- Any precautions to be taken while working on the scaffold, and
- The expiry date of the tag

Scaffolds must be inspected prior to initial use and after any occurrence which could affect the scaffolds structural integrity

The tags let workers know that a particular scaffold is safe for use, that a potential or unusual hazard is present, or the scaffold is unsafe for use. The yellow tag is required to describe any precautions to be taken while working on the scaffold. A scaffold being modified on a particular level requires a yellow tag. The tag alerts workers climbing onto the scaffold of the modification work and any special precautions that might affect them.

| Color of Inspection Tag | Wording to Appear on Tag |
|--------------------------------|---|
| Green | "Safe for Use" or similar wording |
| Yellow | "Caution: Potential or Unusual Hazard" or similar wording |
| Red | "Unsafe for Use" or similar wording |

Training

Recognizing the need for training for workers who:

- perform work while on scaffolds
- are involved in erecting, disassembling, moving, operating, repairing, maintaining, or inspecting scaffolds
- have lost the requisite proficiency, training is one of the highest priorities of this program

Workers Who Use Scaffolds

The Company workers who perform work on scaffolds will be trained by a qualified person to recognize the hazards associated with the type of scaffold being used and to understand the procedures to control or minimize those hazards. All The Company workers will comply with scaffold tags. The training will include the following areas as applicable:

- The nature of and the correct procedures for dealing with electrical hazards.
- The nature of and the correct procedures for erecting, maintaining, and disassembling the fall protection and falling object protection systems used.
- The proper use of the scaffold, and the proper handling of materials on the scaffold.
- The maximum intended load and the load-carrying capacities of the scaffolds used.
- Tagging of scaffolds.
- Any other pertinent requirements of the local standards and regulations.

Workers Who Erect, Disassemble, Move, Operate, Repair, Maintain, or Inspect Scaffolds

The Company workers who erect, disassemble, move, operate, repair, maintain, or inspect scaffolds will be trained by our competent person to recognize the hazards associated with the work being done. The training will include the following:

- The nature of scaffold hazards.
- The correct procedures for erecting, disassembling, moving, operating, repairing, inspecting, and maintaining the type of scaffold in question.
- The design criteria, maximum intended load-carrying capacity, and intended use of the scaffold.
- Tagging of scaffolds.
- Any other pertinent requirements of this subpart.

Workers Who Need Retraining

When we have reason to believe that one of our workers lacks the skill or understanding needed for safe work involving the erection, use or dismantling of scaffolds, we will retrain the worker so that the requisite proficiency is regained. Retraining will be done in at least the following situations:

- Where changes at the worksite present a hazard about which the worker has not been previously trained.
- Where changes in the types of scaffolds, fall protection, falling object protection, or other equipment present a hazard about which a worker has not been previously trained.
- Where inadequacies in an affected worker's work involving scaffolds indicate that the worker has not retained the requisite proficiency.

Crane Operation Policy Supplement

PLEASE NOTE – it is the expectation that any crane services will be outsourced – Evolution employees will never operate cranes.

PURPOSE & SCOPE

This program is intended to provide **EVOLUTION MAINTENANCE’S** Subcontracted Companies performing this type of work with a guideline for the safe operation, use and inspection of mobile cranes and hoists. This policy applies to wheel mounted cranes of both truck and self-propelled wheel type, and any variations thereof that retain the same fundamental characteristics used at company-controlled work locations where company employees are performing work.

Functional Description: Can hoist, lower and horizontally move a suspended load & Long List of Examples:

- *Articulating cranes (such as knuckle-boom cranes)*
- *Crawler cranes*
- *Floating cranes*
- *Cranes on barges*
- *Locomotive cranes*
- *Mobile cranes (such as wheel-mounted, rough-terrain, all-terrain, commercial truck-mounted, and boom truck cranes)*
- *Multi-purpose machines when configured to hoist and lower (by means of a winch or hook) and horizontally move a suspended load*
- *Industrial cranes (such as carry-deck cranes)*
- *Dedicated pile drivers*
- *Service/mechanic trucks with a hoisting device*
- *Crane on a monorail*
- *Tower cranes (such as fixed jib (“hammerhead boom”), luffing boom and self-erecting)*
- *Pedestal cranes*
- *Portal cranes*
- *Overhead and gantry cranes*
- *Straddle cranes*
- *Sideboom cranes*
- *Derricks*
- *and variations of such equipment*

DEFINITIONS

- *Accessory* -- A secondary part or assembly of parts which contributes to the overall function and usefulness of a machine.
- *Axis of Rotation* -- The vertical axis around which the crane superstructure rotates.
- *Base* -- The traveling base or carrier on which the rotating superstructure is mounted such as a car, truck, crawlers, or wheel platform.

- *Boom Angle* -- The angle between the horizontal and longitudinal centerline of the boom.
- The boom longitudinal centerline is a straight line between the boom foot pin (heel pin) centerline and boom point sheave pin centerline.
- *Boom Hoist* -- A hoist drum and rope reeving system used to raise and lower the boom. The rope system may be all live reeving or a combination of live reeving and pendants.
- *Boom* -- Member hinged to the front of the rotating superstructure with the outer end supported by ropes leading to a gantry or A-frame and used for supporting the hoisting tackle.
- *Boom Stop* -- A device used to limit the angle of the boom at the highest position.
- *Brake* -- A device used for retarding or stopping motion by friction or power means.
- *Cab* -- A housing which covers the rotating superstructure machinery and/or operator's station. On truck-crane trucks a separate cab covers the driver's station.
- *Clutch* -- A friction, electromagnetic, hydraulic, pneumatic, or positive mechanical device for engagement or disengagement of power.
- *Counterweight* -- A weight used to supplement the weight of the machine in providing stability for lifting working loads.
- *Crane Safe Work Permit* -- The permit issued by the Site Supervisor or Crane Competent Person at the job site to the crane operator before any mobile hoisting work is performed.
- *Critical Lift* -- A lift where:
 - The load exceeds 80% of the crane's capacity.
 - Weight of the lift exceeds 50% of the load chart rating of the equipment being used and the lift is over power lines, process equipment, piping, or personnel are being lifted.
 - Two booms are required.
 - Poles or derricks have been erected.
 - Personnel are being lifted.
 - Crane is traveling with load.
 - Any lift in a Critical Lift Area.
- *Designated* -- Means selected or assigned by the Company or a representative of the Company as being qualified to perform specific duties.
- *Drum* -- Cylindrical members around which ropes are wound for raising and lowering the load or boom.
- *Dynamic* -- Means loads introduced into the machine or its components by forces in motion for hoisting and lowering loads.
- *Gantry* -- Structural frame, extending above the superstructure, to which the boom support ropes are reeved.
- *Jib* -- An extension attached to the boom point to provide added boom length for lifting specified loads. The jib may be in line with the boom or offset to various angles.
- *Load (working)* -- Means the external load, in pounds, applied to the crane, including the weight of load-attaching equipment such as load blocks, shackles, and slings.
- *Load block [lower]* -- Means the assembly of hook or shackle, swivel, sheaves, pins, and frame suspended by the hoisting ropes.

- *Load block [upper]* -- Means the assembly of hook or shackle, swivel, sheaves, pins, and frame suspended from the boom point.
- *Load hoist* -- A hoist drum and rope reeving system.
- *Load Ratings* -- Crane ratings in pounds established by the manufacturer.
- *Locomotive Crane* -- Consists of a rotating superstructure with power-plant, operating machinery and boom, mounted on a base or car equipped for travel on railroad track. It may be self-propelled or propelled by an outside source. Its function is to hoist and swing loads at various radii.
- *Mobile Hoisting Equipment* -- Conventional rigid boom cranes, hydraulic cranes, and flexlifts.
- *Outriggers* -- Extendable or fixed metal arms, attached to the mounting base, which rest on supports at the outer ends.
- *Reeving* -- A rope system in which the rope travels around drums and sheaves.
- *Rigging* -- Any cables, chokes, slings, hooks, beams, spreaders, or other device used to attach or lift the load.
- *Rope* -- Refers to a wire rope unless otherwise specified.
- *Side Loading* -- A load applied at an angle to the vertical plane of the boom.
- *Superstructure* -- The rotating upper frame structure of the machine and the operating machinery mounted thereon.
- *Swing* -- Means the rotation of the superstructure for movement of loads in a horizontal direction about the axis of rotation.
- *Swing Mechanism* -- The machinery involved in providing rotation of the superstructure.
- *Tackle* -- Assembly of ropes and sheaves arranged for hoisting and pulling.
- *Truck Crane* -- Consists of a rotating superstructure with power plant, operating machinery and boom, mounted on an automotive truck equipped with a power plant for travel. Its function is to hoist and swing loads at various radii.
- *Wheel Mounted Crane* -- Consists of a rotating superstructure with power plant, operating machinery and boom, mounted on a base or platform equipped with axles and rubber-tired wheels for travel. The base is usually propelled by the engine in the superstructure, but it may be equipped with a separate engine controlled from the superstructure. Its function is to hoist and swing loads at various radii.
- *Whipline* -- A separate hoist rope system of lighter load capacity and higher speed than provided by the main hoist.
- *Winch Head* -- A power driven spool for handling of loads by means of friction between fiber or wire rope and spool.

SAFETY & OPERATIONAL REQUIREMENTS

Responsibilities

Site Supervisor

The Site Supervisor or his/her designate is responsible for assuring that:

- Employees/Subcontracted Personnel know, understand, and comply with the requirements of this policy.

- Employees/Subcontracted Personnel are trained in the procedures and use of equipment they are to use to complete the job.
- Audit and inspect for compliance of this policy.
- Each crane is on a regular (daily, monthly, annual) inspection schedule.
- Proofs of regular inspections using the checklist in this policy are available.
- Rental or leased cranes have a valid annual certification sticker or other documents prior to the use of the cranes.
- Competent, qualified operators are used when lifting.
- A *Crane Safe Work Permit* is issued for the following:
 - a. All lifts with cranes having a capacity greater than 10 tons.
 - b. All critical lifts.
- Joint responsibility with the crane operator for the safe operation of the crane(s) and the safety of the lift is maintained.
- Failure to comply with this policy will result in disciplinary action, up to and including discharge.

Crane Operators

The crane operator will be designated by the EVOLUTION MAINTENANCE subcontractor and is responsible for:

- Knowing, understanding, and complying with this policy.
- Inspecting cranes on a daily basis and reporting defects noted during these inspections.
- Reporting any unsafe conditions to supervision.
- Knowing the weight of loads PRIOR to lifting.
- Knowing the wind speed PRIOR to lifting.
- Performing a daily inspection using the *Daily Operators Inspection Report* at the beginning of each days work PRIOR to the crane use. Any deficiencies that affect the safe operations of the crane shall be repaired PRIOR to use. Each daily inspection report shall remain with the operator during the operation of the crane and turned in at the end of the work day.
- Perform a lifting job specific pre-task assessment using *Operators Lift Pre-Task Safety Assessment* for each lift.
- Ensure the load, rigging, procedures, and lifts are safe to use. The operator is responsible for the load and lift when the crane is connected to the load.
- Assume joint responsibility with the Site Supervisor for the safe operation of the crane(s) and the safety of the lift.
- Understand that failure to comply with this policy will result in disciplinary action, up to and including discharge.

General Requirements

Pre-Lift

- Manufacturer's lifting procedures and methods shall be observed at all times.
- No modifications or additions which affect the capacity or safe operation of the equipment shall be made by the company or its employees 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.
- All cranes shall have a qualified competent operator.
- Inspect cranes when they arrive on site for mechanical integrity, load chart, operating manual and annual certification decal/sticker. (See policy on Rigging)
- The crane operator must complete an *Operator's Lift Pre-Task Assessment* and *Mobile Hoisting Safe Work Procedure* PRIOR to lifting.
- Rated load capacities, recommended operating speeds, special hazard warnings, or instructions shall be in a conspicuous place on all equipment, as required, and shall be visible to the operator while at the control station.
- Inspect all rigging devices before use. Follow manufacturer's capacities and recommendations.
- Obtain a *Crane Safe Work Permit* for all cranes with capacities of 10 tons or more and critical lifts.
- Work with lifts, cranes, or any hoisting equipment must be supervised at all times.
- Wooden pads on outriggers will be used on all non-concrete surfaces. Mats will be used as needed.
- The rear of the rotating superstructure of a crane will be barricaded to warn of the pinch point hazard.
- The area where an overhead lift is made will be barricaded if personnel can have access and walk under the load.
- Load block, headache ball, hooks, boom tip, and anti-2 block devices shall be marked with highly visible fluorescent orange paint.
- All jibs shall have positive stops to prevent their movement of more than 5 degrees above the straight line of the jib and boom on conventional type crane booms. The use of cable type belly slings does not constitute compliance with this rule.

Lifting

- Lifting multiple loads, "Christmas treeing", is prohibited.
- Hand signals to crane operators shall be those prescribed by the applicable ANSI standard for the type of crane in use. An illustration of the signals shall be posted at the job site.
- All employees shall be kept clear of loads about to be lifted and of suspended loads.
- There shall be no sudden acceleration or deceleration of the moving load.
- Side loading of booms shall be limited to freely suspended loads. Cranes shall not be used for dragging loads sideways.
- No hoisting, lowering, swinging, or traveling shall be done while anyone is on the load or hook.
- On truck-mounted cranes, no loads shall be lifted over the front area except as approved by the crane manufacturer.

- The operator shall test the brakes each time a load approaching the rated load is handled by raising it a few inches and applying the brakes.
- Outriggers shall be used when the load to be handled at that particular radius exceeds the rated load without outriggers as given by the manufacturer for that crane. Where floats are used they shall be securely attached to the outriggers.
- Wood blocks used to support outriggers shall:
 - Be strong enough to prevent crushing.
 - Be free from defects.
 - Be of sufficient width and length to prevent shifting or toppling under load.
- Neither the load nor the boom shall be lowered below the point where less than 2 full wraps of rope remain on their respective drums.
- When two or more cranes are used to lift one load, one designated person shall be responsible for the operation. He/she shall be required to analyze the operation and instruct all personnel involved in the proper positioning, rigging of the load, and the movements to be made.
- In transit the following additional precautions shall be exercised:
 - a. The boom shall be carried in line with the direction of motion.
 - b. The superstructure shall be secured against rotation, except when negotiating turns when there is an operator in the cab or
 - c. the boom is supported on a dolly.
- The empty hook shall be lashed or otherwise restrained so that it cannot swing freely.
- Before traveling a crane with load, a designated person shall be responsible for determining and controlling safety. Decisions such as position of load, boom location, ground support, travel route, and speed of movement shall be in accord with his determinations.
- A crane with or without load shall not be traveled with the boom so high that it may bounce back over the cab.
- When rotating the crane, sudden starts and stops shall be avoided. Rotational speed shall be such that the load does not swing out beyond the radii at which it can be controlled. A tag or restraint line shall be used when rotation of the load is hazardous.
- When a crane is to be operated at a fixed radius, the boom-hoist pawl or other positive locking device shall be engaged.
- Ropes shall not be handled on a winch head without the knowledge of the operator.
- While a winch head is being used, the operator shall be within convenient reach of the power unit control lever.
- The operator shall not be permitted to leave his position at the controls while the load is suspended.
- No person should be permitted to stand or pass under a load on the hook.
- If the load must remain suspended for any considerable length of time, the operator shall hold the drum from rotating in the lowering direction by activating the positive controllable means of the operator's station.

Other Requirements

- Cranes shall not be operated without the full amount of any ballast or counterweight in place as specified by the maker, but truck cranes that have dropped the ballast or counterweight may be operated temporarily with special care and only for light loads without full ballast or counterweight in place. The ballast or counterweight in place specified by the manufacturer shall not be exceeded.
- Necessary clothing and personal belongings shall be stored in such a manner as to not interfere with access or operation.
- Tools, oil cans, waste, extra fuses, and other necessary articles shall be stored in the tool box, and shall not be permitted to lie loose in or about the cab.
- Refueling with small portable containers shall be done with an approved safety type can equipped with an automatic closing cap and flame arrester.
- Machines shall not be refueled with the engine running.
- A carbon dioxide, dry chemical, or equivalent fire extinguisher shall be kept in the cab or vicinity of the crane.
- Operating and maintenance personnel shall be made familiar with the use and care of the fire extinguishers provided.

Crane maintenance, repairs and "out of service" procedures

Prior to making repairs or adjustments to a crane, specific procedures shall be followed and precautions taken:

- Move the crane to be repaired to a place where it will cause the least interference with other cranes and operations in the area.
- Set all controllers to the off position.
- Open the main or emergency switch and lock it in the open position.
- Place prominent warning or "out of order" signs on the crane so that they are in plain sight of workers in the area.
- After repairs and adjustments are completed, replace all guards, reactivate all safety devices and remove maintenance equipment before operating the crane.

Operations Near Overhead Electrical Lines

Except where electrical distribution and transmission lines have been de-energized and visibly grounded at point of work or where insulating barriers, not a part of or an attachment to the equipment or machinery, have been erected to prevent physical contact with the lines, equipment or machines shall be operated proximate to power lines only in accordance with the following:

- *Could you get within 20 feet of ANY power line? If the answer is NO, there is no further action required. If the answer is YES, then you have 3 options:*
 1. *De-energize & Ground*
 2. *Maintain 20 foot clearance*
 3. *Ask Utility for Voltage and use Table A (with minimum clearance distances)*
 4. *If you chose option 2 or 3 then Encroachment Prevention Measures need to be implemented including, a planning meeting, if tag lines are used then non-conductive,*

elevated warning lines, barricade or line of signs, plus choose one: Proximity alarm, spotter, warning device, range limiter, or insulating link

Table A – Minimum Clearance Distances

| <i>Voltage (nominal, kV, alternating current)</i> | <i>Minimum clearance distance (feet)</i> |
|---|---|
| <i>up to 50</i> | <i>10</i> |
| <i>over 50 to 200</i> | <i>15</i> |
| <i>over 200 to 350</i> | <i>20</i> |
| <i>over 350 to 500</i> | <i>25</i> |
| <i>over 500 to 750</i> | <i>35</i> |
| <i>over 750 to 1000</i> | <i>45</i> |
| <i>over 1000</i> | <i>(as established by the power line owner/operator or registered professional engineer who is a qualified person with respect to electrical power transmission and distribution)</i> |

- *If you intentionally work closer than the Table A Zone, you must show that:*
 - *Staying outside the zone is infeasible*
 - *It is infeasible to de-energize and ground and the following is required:*
 - *Power line owner – **sets minimum approach distance***
 - *Planning meeting – minimum procedures*
 - *Dedicated spotter*
 - *Elevated warning line or barricade*
 - *Insulating link/device*
 - *Nonconductive rigging*
 - *Range limiter (if equipped)*
 - *Nonconductive tag line (if used)*
 - *Barricades - 10 feet from equipment*
 - *Limit access to essential workers*
 - *Prohibit non-operator workers from touching above insulating link*
 - *Properly ground crane*
 - *Deactivate automatic re-energizer*
 - *Insulating line cover-up installed*

- *Electric Utilities – employers whose employees are qualified to perform power distribution and transmission work are considered to be in compliance with §§ 1926.1407-1926.1411 of subpart CC (power lines sections) when performing subpart V work in accordance with § 1910.269. (§ 1926.1400(g))*
- A person shall be designated to observe clearance of the equipment and give timely warning for all operations where it is difficult for the operator to maintain the desired clearance by visual means.
- Cage-type boom guards, insulating links, or proximity warning devices may be used on cranes, but the use of such devices shall not alter the requirements of any other regulation of this part even if such device is required by law or regulation.
- Any overhead wire shall be considered to be an energized line unless and until the person owning such line or the electrical utility authorities indicate that it is not an energized line and it has been visibly grounded.
- Prior to work near transmitter towers where an electrical charge can be induced in the equipment or materials being handled, the transmitter shall be de-energized or tests shall be made to determine if electrical charge is induced on the crane.

The following precautions shall be taken when necessary to dissipate induced voltages:

- The equipment shall be provided with an electrical ground directly to the upper rotating structure supporting the boom; and
- Ground jumper cables shall be attached to materials being handled by boom equipment when electrical charge is induced while working near energized transmitters. Crews shall be provided with nonconductive poles having large alligator clips or other similar protection to attach the ground cable to the load.
- Combustible and flammable materials shall be removed from the immediate area prior to operations.
- Identify work zone by marking boundaries or ensure that clearance of 360 degrees around the crane up to the maximum working address

INSPECTION REQUIREMENTS

The Crane Operator and the Crane Competent Person are responsible for performing inspections using *Daily Operators Inspection Report -- Mobile Crane Operation*, *Monthly Hydraulic Crane Inspection Report* and *Monthly Inspection of Truck Cranes*.

Inspection of critical components of the crane shall be performed at least monthly.

Components inspected shall include crane hooks and safety latches; brakes and braking components; and ropes.

Inspection records shall be filed and maintained by the **subcontractor at their individual office(s)**. Crane certification records shall include the inspection date, signature of the inspector,

and identification of the component by serial number or other identifier. This certification record shall be maintained so that it is readily available for inspection and confirmation.

A written record also shall be maintained of reports showing rated load test procedures and confirming the adequacy of repairs or alterations.

Test loads shall not exceed 110 percent of the rated load at any selected working radius.

If re-rating is required, crawler, truck, and wheel-mounted cranes shall be tested in accordance with SAE Recommended Practice, Crane Load Stability Test Code J765 (April 1961). Re-rating test report shall be readily available.

No re-rating in excess of a crane's original load rating shall be performed unless the manufacturer or designated technician who is in charge of final assembly gives their approval in writing. Such written approval shall be maintained in a file by the assigned subcontractors.

A thorough annual inspection of the hoisting machinery shall be made by a competent person, or by a government or private agency recognized by the U.S. Department of Labor.

EVOLUTION MAINTENANCE'S subcontractors shall maintain a record of the dates and results of inspections and rated load tests for each hoisting machine and piece of equipment.

Any defects found will be repaired by a qualified person before the crane is used. Before a crane is placed in service for use, rope components shall be inspected by a qualified person for defects, damage and deformities and at least monthly thereafter.

Certification of this inspection shall be in writing and document the date of inspection; inspector's name and signature; and identification number of the rope component inspected.

Inspection of wire rope

Wire rope shall be taken out of service when any of the following conditions exist:

- In running ropes, 6 randomly distributed broken wires in 1 lay or 3 broken wires in one strand in one lay;
- Wear of 1/3 the original diameter of outside individual wires.
- Kinking, crushing, bird caging, or any other damage resulting in distortion of the rope structure;
- Evidence of any heat damage from any cause;
- Reductions from nominal diameter of more than 1/64 inch for diameters up to and including 5/16 inch, 1/32 inch for diameters 3/8 inch to and including 1/2 inch, 3/64 inch for diameters 9/16 inch to and including 3/4 inch, 1/16 inch for diameters 7/8 inch to 1 1/8 inches inclusive, 3/32 inch for diameters 1 1/4 to 1 1/2 inches inclusive;
- In standing ropes, more than 2 broken wires in 1 lay in sections beyond end connections or more than 1 broken wire at an end connection.

- Wire rope safety factors shall be in accordance with American National Standards Institute B 30.5-1968 or SAE J959-1966.

Heavy wear and/or broken wires may occur in sections that have contact with equalizer sheaves or other sheaves (where rope travel is limited) or with saddles. Particular care shall be taken to inspect ropes at these locations.

If rope has not been used for a month or longer (i.e. due to shutdown or storage of a crane on which it is installed) this rope shall be given a thorough inspection before it is used.

This inspection shall be made by a designated person who is authorized by the Company.

This inspector shall examine rope for any kind of damage, deterioration or defect that might compromise the safety and specifications of the rope. Specific attention and care shall be given to the inspection of non-rotating rope.

Only this designated and authorized inspector shall give approval for use of this rope following satisfactory safety inspection as described above.

A written record of the inspector's certification shall be maintained by the Safety Coordinator in a file and be readily available for review and confirmation. This certification shall include the inspection date, name and signature of the inspector, and the identification number of the rope component that was inspected.

Inspection of hoist chains

Hoist chains and end connections shall be inspected daily for damage, deterioration, excessive wear, twist, distorted links interfering with proper function, or stretch beyond manufacturer's recommendations.

Chains shall be inspected visually by the operator each day or before first use.

Chains also shall be inspected monthly for safety certification. The written certification shall include the date of inspection, name and signature of the inspector, and the identification number of the chain that was inspected. Written certification records shall be maintained by the Safety Coordinator in a file.

Inspection of hooks and hook components

Crane hooks and safety latches shall be visually inspected each day or at the beginning of a shift prior to use for damage, cracks or deformation.

Hooks and safety latches also shall be inspected monthly for safety certification. The written certification shall include the date of inspection, name and signature of the inspector, and the

identification number of the hook that was inspected. Written certification records shall be maintained by the **Safety Coordinator of the assigned subcontractor(s)** in a file.

Hooks that have cracks or a throat opening that is greater than 15 percent in excess of normal or more than 10-degree twist from the plane of the unbent hook shall be discarded.

Preventive maintenance

EVOLUTION MAINTENANCE' assigned subcontractor(s) have implemented a preventive maintenance program to help ensure the safety of cranes, hoists, rigging and related equipment. Preventive maintenance shall be performed in accordance with manufacturer's recommendations. Each crane shall have a written record of preventive maintenance that is maintained by the **Safety Coordinator of the assigned subcontractor(s)**.

| <i>Type of Inspection</i> | <i>Who?</i> |
|--------------------------------------|-------------------------|
| <i>Modified or repaired/adjusted</i> | <i>Qualified person</i> |
| <i>Post-assembly</i> | <i>Qualified person</i> |
| <i>Shift</i> | <i>Competent person</i> |
| <i>Monthly</i> | <i>Competent person</i> |
| <i>Annual</i> | <i>Qualified person</i> |

- *Inspections – all documentation required by the inspection provisions must be available to all inspectors performing required inspections (including wire rope inspections). (§§ 1926.1412 & 1926.1413)*
- *Pre-Erection Inspection for Tower Cranes – adds a requirement to include inspection of crane components after transportation to the work site and prior to erection of the crane. (§§ 1926.1435)*
- *Operations procedures must be developed by a qualified person when the manufacturer's procedures are unavailable.*
- *Procedures related to the capacity of the equipment must be developed by a registered professional engineer (familiar with the equipment) when the manufacturer's procedures are unavailable.*
- *This information must be readily available in the cab of the crane.*
- *Operators cannot be engaged in activities that distract her or his attention while operating the equipment (for example, no cellular phone use unless used for signaling).*

Training Requirements for Crane Operators

All Crane Operators must be trained to recognize and avoid hazards. Training must be provided to the employee in a manner where they can understand it whether it be oral/written training. Training must also be provided in a language that the employee understands, if they are not comfortable Training will be conducted on the requirements of this policy annually, whenever this policy is revised, and for new crane operators or newly hired operators.

Crane operators and the rigging crew will review this policy prior to lifts. If the job has multiple lifts this policy will be reviewed once prior to the jobs starting. All new crane operators and rigging crew members will review this policy prior to starting work.

Each assigned subcontractor(s) will implement a training program to ensure all relevant certifications are obtained and all regulations met.

The A/D Director of each assigned subcontractor(s) must be competent and qualified and must:

- *Understand Procedures*
- *Review Procedures (unless A/D has used them before)*
- *Check that crew members understand their tasks/hazards*
- *Follow Manufacturer's prohibitions*
- *All Rigging work is done by a Qualified Rigger*
- *When using Outriggers, fully extend OR deploy as per the load chart*

Qualified Riggers:

The New Crane Standard adds requirements that employers must use a qualified rigger for rigging operations during assembly/disassembly and other activities when workers must be in the fall zone to handle a load. (§1926.1404 and § 1926.1425)

All riggers supplied by a 3rd Party Subcontractor will be qualified person for the performance of specified hoisting activities such as during assembly/disassembly work and those that require employees to be in the fall zone to handle a load. The rigger would be considered qualified through possession of a recognized degree, certificate, or professional standing; or by extensive knowledge, training, and experience, successfully demonstrating the ability to solve/resolve problems related to rigging work and related activities.

Signal Persons:

- *Qualification Requirements:*
 - *Know & understand signals*
 - *Competent in using signals*
 - *Basic understanding of crane operation*
 - *Verbal or written test plus practical test*

| <i>Qualified How</i> | <i>Documentation Portable</i> | |
|--|-------------------------------|-----|
| <i>Third party qualified evaluator</i> | Yes | Yes |

Safety Devices

- *Safety devices are required and must be operational at all times*
- *Include:*
 - *Crane level indicator*

- Boom/Jib stops (except derricks)
- Integral holding device/check valve for outrigger and stabilizer jack

Operational aids are required but temporary alternative measures are also allowed while operational aids are being repaired.

- Boom hoist limiting device, luffing jib limiting device, and anti two-blocking device. **Replacement of parts:** Must be repaired within 7 days of discovery of deficiency.
- **Category II Devices:** Boom angle or radius indicator, boom length indicator, load weighing devices, jib angle indicator, outrigger/stabilizer position sensor/monitor, and hoist drum rotation indicator. **Replacement of parts:** Must be repaired within 30 days of discovery of deficiency.
- **Exception: employer has documented that it ordered the part and then repaired the equipment within 7 days of receipt of the replacement part.**
- When any necessary repairs or adjustments are needed for the equipment and alternative methods are being implemented, the employer must communicate this information to all affected employees at the beginning of each shift. (§ 1926.1417(j))

Tower Cranes

Some supplemental requirements for Tower Cranes:

- Foundations & structural supports
 - Design & Inspection
- Plumb tolerance
 - Specification & verification
- Climbing procedures
 - Host structure strength verification
 - Wind
- Post-erection load test
- Monthly Inspection: tower mast bolts, upper-most tie-in, braces, floor supports, floor wedges

Required Documentation Includes:

- Monthly & annual inspection reports for the equipment and wire rope
- Modifications that affect the safe use of the equipment
- Operator and signal person qualifications
- Tower crane foundation/support design
- When repairs or adjustments of the equipment are needed
- Employer-developed procedures (i.e., assembly/disassembly, operational, and other procedures related to the safe operation of the equipment)
- Power line encroachment procedures/plan

Hot Work Policy Supplement

PURPOSE:

The purpose of this policy is to establish cutting and welding safety procedures and to ensure that all cutting and welding operations are performed in the safest manner possible, and in compliance with applicable regulations.

POLICY:

All cutting and welding operations shall be performed in compliance with OSHA standards and all other applicable state, local and client regulations, policies, procedures and standard safe work practices. Welding is restricted to areas or situations where adequate fire prevention, welder protection and passerby protection can be assured.

PROCEDURES:

This safety standard is intended as a guide to safe practices in welding, burning, brazing and related operations. The precautions and protective measures outlined are recommended minimum requirements. Welders should exercise judgment in applying these precautionary measures in such matters as length of work periods, poor ventilation, unusual work locations, and specialized operations. Additional protective measures may be required in certain instances.

TRAINING:

- Fire Watch Training – At a minimum the fire watch will be trained to the following standards: A “Fire Watch” is a person specifically trained and assigned to warn others of hazards associated with flammable materials, and when capable to prevent incipient stage fires.
 - Ensure proper “Hot Work” permit is on site
 - Ensure permit is signed by all appropriate personnel
 - Ensure adequate means of access and egress are provided to the work site
 - Read and understand all permit provisions, and maintain the conditions of the permit at all times
 - Wear an identification vest (made of flame retardant material)
 - Maintain appropriate sewer drain coverage (if applicable)
 - Maintain a charged fire hose to the end nozzle, and/or a charged dry chemical fire extinguisher with current inspection tags
 - Maintain spark containment by using approved fire blankets
 - Prevent the taking of samples, venting, or opening of piping or equipment in the immediate area of the hot work
 - Must be able to communicate in English so that you can inform others in the event of emergency conditions
 - Determine the exact location of firefighting equipment in the immediate area
 - Ensure proper barricading and warning signs are used
 - Continuously monitor the work area during and for 30 minutes after hot work has finished to ensure no smoldering embers or slag exist
 - During actual hot work, keep area wet when possible
 - Continuously monitor the work area and surrounding area for any unsafe conditions, or potentially hazardous conditions
 - In the event of a hazardous condition, emergency, or changing environment, the fire watch will stop all work until it is safe to resume

- Never leave the work site unless the work has stopped, or until you are relieved by another employee with equal or greater training and knowledge
- Ensure surrounding conditions are inspected and precautions are taken with consideration given to wind direction
- Ensure equipment such as welding machines, hoses, tools, etc., are located so as not to impede access or egress, or access to firefighting equipment
- 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
- Only trained and qualified personnel may operate or maintain welding, cutting or brazing equipment Welders/Cutters will be trained per this policy and will possess the appropriate certifications for their work scope.
- Craft who perform any of the functions covered by this policy will be required to complete training including:
 - A test or other method to determine competency
 - All training records shall be documented and kept on file with Human Resources

General Rules

Initial Assessment – Fire is a primary focus and the assessment for fire protection guide should be used:

A dedicated fire watch is required for all hot work. If the object to be cut, burned or brazed cannot be moved and if all fire hazards cannot be removed, then guards shall be used to confine the heat sparks and slag and to protect the immovable fire hazards. If these steps cannot be taken to prevent fire, then the hot work will be stopped until a safer alternative is available to perform the work safely.

Supervisor/qualified personnel will inspect the area prior to work beginning and authorize the work. The competent person will be trained to perform his/her job functions and to identify substandard conditions/acts. The competent person shall ensure all oxygen-fuel gas supply equipment is suitable, safe to use, and in good working condition for the hot work.

Inspections and certification records will be kept for recordkeeping.

| If | And | Then |
|----|-----|------|
|----|-----|------|

| | | |
|--|--|--|
| The object to be welded, cut or heated can be moved | A fire-resistant, safe workspace is available | Welding, cutting or heating shall be done in that space. |
| The object to be welded, cut or heated cannot be moved | All fire hazards can be moved to a safe distance | Welding, cutting or heating can be done once fire hazards are taken to a safe place. |
| The object to be welded, cut or heated cannot be moved | All the fire hazards cannot be removed | Guards shall be used to confine the heat, sparks, and slag, and to protect the immovable fire hazards. |

1. Before doing any welding or burning, outside of an area approved for routine hot work, be certain the necessary Hot Work Permit has been issued. All hot work will be approved by the client and the site supervisor. The crew responsible for the equipment will ensure all is suitable and in good working order. All equipment is inspected prior to beginning work and all crew members using the equipment will be familiar with "American Welding Society Standard A6-1-1966". Any equipment that is not ready for service or needs repair shall be red-tagged and repaired by qualified personnel.
2. Whenever it is necessary for hoses, lines or cords to cross walkways or work areas, they must be strung overhead or protected by planks laid on both sides of the hose. All hoses, cord and leads and other welding equipment must be maintained in a safe and serviceable condition, with no fraying or exposed copper permitted. They should be deployed in a manner that does not create tripping hazards.
3. Contain all sparks with fire blanketing.
4. Before each use, hose must be inspected for leaks, burns, worn places, loose connections, or other defects which may render the hose unfit for service. Hose burned by a flash back must be discarded.
5. Welding machine ground connections must be made on or as close as possible to the object being worked upon to assure a good ground and prevent damage to valves, pump bearings, etc.
6. Welding machine grounds shall not be made to handrails, stairs, or to projections from steel power or lighting towers, or on any active oil, gas, steam, air, or chemical line.
7. Temporary power lines to portable arc welding machines should be carried overhead whenever practical or laid on the floor or ground suitably protected so that they cannot be damaged or interfere with safe passage.
8. Necessary precautions must be taken to protect against electrical shocks when working in wet or damp places.
9. In electric welding, all parts of the body should be covered to prevent skin burns from ultra-violet rays or molten metal. The feet and ankles are particularly vulnerable to burns, and care should be taken to see that they are properly protected.

10. Do not use ear cotton when welding. Sparks or slag may ignite the cotton.
11. Welding rod shall not be stored in its original container once the container has been opened. When an original container is opened, the rod shall be immediately transferred to either a rod oven or an approved container, such as the plastic "rod guard" container. The original container shall then be crushed and properly disposed of.
12. Full spark containment is required and any exposed equipment or small-bore piping must be protected from damage. A trained fire watch must be present at all times hot work is in progress.
13. Two sets of Flash Back arrestors must be installed on oxyacetylene system; one set installed at regulators and one set at torch handle (unless torch is equipped with arrestors).
14. Welders must wear Z-87 Safety Glasses with side shields under their welder's hoods.
15. Grinders are required to have OSHA approved guards in place at all times. Exceptions must be approved by the Safety Department.
16. Only pipe stands that are designed to prevent pinch points at the center tube locking washer, and a stop at the base of the center tube to prevent crushing type injuries shall be used.
17. All welding rigs must be in safe operating condition and be properly identified.
18. Welding rigs must have emergency brake set and transmission in park or low gear when parked. If there is any slope the wheels must be chocked. When exiting a welding rig, welders must wear all required PPE.
19. The work area must be kept clean and materials including used weld rod removed when job is complete.
20. All welding rigs shall have a fire extinguisher.
21. Approved spark arrestors are required on all welding machines.
22. Always inspect grinders before each use. Grinders must have ground fault circuit interrupters (GFCI's)
23. Welding hoods must be equipped with the proper shaded lens for protection against radiant energy. (according to chart)
24. Make sure all sewers, drains, pits, pipe trenches, confined spaces; enclosed spaces have been tested for flammable vapors and/or hydrocarbons. Cover all openings per client policy.

Filter Lens Shade Numbers for Protection against Radiant Energy

| Shade Number | Welding Operation |
|--------------|--|
| 10 | Shielded metal arc welding 1/16, 3/32, 1/8, 5/32-in. diameter electrodes |
| 11 | |

| | |
|----------|---|
| 12 | Gas-shielded arc welding (nonferrous) 1/16, 3/32, 1/8, 5/32-in. diameter electrodes |
| 12 | |
| 14 | Gas-shielded arc welding (ferrous) 1/16, 3/32, 1/8, 5/32-in. diameter electrodes |
| 10 to 14 | Shielded metal-arc welding 3/16, 7/32, 1/4-in. diameter electrodes |
| 14 | Shielded metal-arc welding 5/16, 3/8-in. diameter electrodes. |
| 2 | Atomic hydrogen welding |
| 3 or 4 | Carbon arc Welding |
| 3 or 4 | Soldering |
| 4 or 5 | Torch Brazing |
| 5 or 6 | Light cutting, up to 1 in. |
| 4 or 5 | Medium cutting, 1 in. to 6 in. |
| 5 or 6 | Heavy cutting, over 6 in. |
| 6 or 8 | Gas welding (light), up to 1/8-in. |
| | Gas welding (medium), 1/8-in. to 1/2-in. |
| | Gas welding (heavy), over 1/2-in. |

Gas Cylinders

1. Compressed gas cylinders are to be shut-off at the bottle when not in use or unattended for short periods of time. At the end of the shift the bottles are to be shut off and gauges and hoses detached, and properly stored and protective caps installed.
2. Compressed gas cylinders shall have gauges removed and be capped prior to transportation. Cylinders shall only be transported or stored in the up position.
3. Use approved storage racks or dollies to store compressed gas cylinders. Chain or #9 wire may also be used. Never use rope for this purpose.
4. On welding rigs compressed gas cylinders shall be securely stored in vertical racks.
5. Oxygen and acetylene cylinders must be stored at a distance of 20 feet apart or be separated by a fire wall that is 5 feet or higher and has a fire rating of 60 minutes or more. These cylinders must be kept at least 20 feet away from combustibles or separated by a fire wall.
6. Do not use a choker or chokers to haul cylinders.
7. Keep cylinders away from work so sparks, slag, or flame cannot reach them. If cylinders cannot be isolated, fire resistant shields must be provided for them.
8. Cylinders shall always have the gauges removed and cylinder caps installed prior to being moved.
9. Acetylene shall never be exposed to unalloyed copper except in a torch.
10. Compressed gas cylinders shall be equipped with connections that conform to ANSI B57.1-1965.
11. Cylinders shall be marked to identify contents.

12. No more than 15 psi of acetylene shall be used at any time.
13. Bottles shall be slightly opened then closed just prior to attachment of the regulator.
14. Torches shall be lighted by friction lighters, not matches or other hot work.
15. Welders must ensure that lines have been adequately purged prior to working on them.
16. Equipment shall be inspected for leaks daily. Unserviceable/non-approved equipment may not be used.
17. All welders shall possess current certifications.
18. Hot work area shall be kept damp at all times.
19. Unattended/unused welding machines shall be turned off.
20. Fire Watches shall remain on site for 1/2 hour after job.
21. MOST IMPORTANTLY: NO HOT WORK PERMIT = NO WELDING.

Ventilation

The following are ventilation requirements for welding.

1. Ensure that adequate ventilation is provided for employees working with welding and cutting equipment. Confined space work will have a plan to address securing of cylinders, lifelines, and warning systems that will be utilized by the safety attendant (Fire Watch/Confined Space Attendant).
2. Ensure that contaminated air exhausted from a working space is discharged into the open air or otherwise clear of the source or intake air.
3. Do not use oxygen for ventilation, comfort cooling, blowing dust from clothing, or for cleaning a work area.
4. Ensure that all necessary precautions are taken to prevent the accumulation of gases when cutting torches are used.
5. Do not take compressed gas cylinders into confined areas.
6. Ventilation equipment consists of air siphons (air movers), and/or exhaust blower (copus air mover).
7. When using blowers or siphons to exhaust fumes, exhaust inlet must be kept as close as possible to the work. Air siphons use large amounts of compressed air. The following safety procedures shall be followed:
 - Keep connecting air hoses as short as possible.
 - Do not attempt to operate more than one siphon off a single air hose or outlet.
 - If used to exhaust a vessel, be sure to seal the bell of the inlet side around the manhole or vessel opening.

- A daily inspection of the safety screens' condition should be accomplished on the blowers. Repair or replace if broken. The use of a blower hinge is also recommended.

Planning Hot Work Welding

In planning or carrying out hot work, certain factors should be considered besides the obviously important hot work permit, gas test and hazard analysis. Those factors include, but are not limited to:

1. The base metal and its health effects. The MSDS on the metal is available and will address this issue.
2. The welding or burning process to be used and its special health problems, if any.
3. The location of the work: Is the work to be done in the open or in a confined space?
4. Ventilation required: Is special ventilation equipment needed?
5. Position of the work: Is the work overhead or below? Can it be positioned to allow fumes to be carried away without entering the welder's breathing zone?
6. Presence of other employees near the job: Is eye protection needed against ultraviolet radiation? Are other workers in the path of the welding fumes?
7. Cleanliness of the metal surface: Are harmful or flammable materials present beneath patches or in seams?
8. Respiratory protection: Are fume respirators adequate, or are air-supplied respirators needed? Protection must be appropriate to the circumstances and must meet the minimum requirement of the permit, but also may be upgraded.
9. Ensure adequate first aid supplies are available before beginning work. All injuries will be reported immediately.

Welding and Burning Safe Practices

The following information is the recommended minimum precautionary measure to be followed in performing the types of hot work listed in Table 13-1. If, in the opinion of the supervisor, additional protection is required for a particular welding or burning job, such added protective measures should be used.

Open Area includes most outside work, the mechanical shop (except vessels or partitioned areas inside the building) and well-ventilated large rooms, buildings or tanks. Confined Spaces include work areas such as inside small tanks, drums, towers, or other vessels, whether indoors or out, as well as small rooms, deep excavations, and manholes.

Table 13-1 - Welding and Burning Stick Electrode Welding

| Electrode | Basic Elements | Byproducts | Precautions |
|-----------|----------------|------------|-------------|
|-----------|----------------|------------|-------------|

| | | | |
|------------------------|---|------------------|---|
| AWS E-6010 | Iron | | A |
| AWS E-6011 | Iron | | A |
| AWS E-6012 | Iron | | A |
| AWS E-6013 | Iron | | A |
| AWS E-6020 | Iron | | A |
| E-316 Stainless 18-12 | Chromium, Nickel, Iron | Chromium, Nickel | B |
| E-310 Stainless 25-20 | Chromium, Nickel, Iron | Chromium, Nickel | B |
| e-308 Stainless 18-8 | Chromium, Nickel, Iron | Chromium, Nickel | B |
| E-610 12% Cr | Chromium, Iron | Chromium | B |
| E-502 5% Cr | Chromium, Iron | | A |
| E-605 9% Cr | Chromium, Iron | Chromium | B |
| E-7018 Low Hydrogen | Iron | Fluorides | C |
| E-8018 B-2 (1-1/4% Cr) | Chromium, Iron | | A |
| E-9018 B-3 (2-1/4% Cr) | Chromium, Iron | | A |
| E-8108 C-2 (3-1/2% Ni) | Nickel, Iron | | |
| Stoody 6 | 65% Cobalt, 45% Tungsten, 28% Chromium Cobalt | Chromium | B |
| Eutectic 680 | High Chromium, Nickel | Chromium, Nickel | B |
| Inco-A | 68% Nickel | Nickel | B |
| Inconel 182 | 65% Nickel | Nickel | B |
| Monel 190 | 60% Nickel, 23% Copper | Nickel, Copper | B |
| Ni-Rod 55 | 60% Nickel | Nickel | B |
| Carpenter 20 | 36% Nickel, 20% Chromium | | B |

Precautions:

A. No special precautions are needed in open or well-ventilated areas. Work in poorly ventilated areas will require respiratory protection. Work in confined spaces may require fume filter-type respirators or supplied air. Adhere to or upgrade permit requirements. Consult the Welding Supervisor.

B. Moderate amounts of fumes generated:

1. Use exhaust blowers or air siphons to remove fumes from breathing zone in open areas.
2. Work in confined spaces will require high efficiency particulate respirators.

C. Fumes and gases generated:

1. Use exhaust blowers or air siphons to remove gases and fumes from breathing zone in open areas.
2. Work in confined spaces will require air-supplied respirator.

D. Intense arc. Large amounts of metal fumes and gases generated:

1. Provide adequate ventilation of work. Use fume exhausters to remove fumes and gases from breathing zone in open areas. Do not direct exhaust air toward other employees. Use fume filter-type respirators in open areas.
2. In confined areas, adequate ventilation must be provided and air-supplied respirator must be worn.

E. Use only in metalizing hood. If necessary to metalize in other locations, use air-supplied respirator and protect other workers in the vicinity. Do not use any lead alloys in open shop area.

Table 13-1
Tungsten Arc Welding, Gas Shielded (Heliarc)* (TIG)

| Rod | Basic Elements | Harmful Byproducts | Precautions |
|-------------------|-------------------------------|------------------------|-------------|
| Evedur 1010 | 05.6% Copper Silicon | Copper, Ozone | C |
| Oxweld 372 Copper | 98% Copper | Copper, Ozone | C |
| AWS ER 4043 | Aluminum, Silicon | Ozone | C |
| AWS ER 5356 | Magnesium, Aluminum | Ozone | C |
| Oxweld 28 | 18% Chromium, 8% Nickel, Iron | Chromium, Nickel Ozone | C |
| Steel | Steel | Ozone | C |
| 1-1/4% Chromium | Chromium, Iron | Ozone | C |
| 2-1/4% Chromium | Chromium, Iron | Ozone | C |

*High levels of ultraviolet light produced. Avoid eye flash with side shield goggles. Avoid skin burns with proper clothing.

C. Fumes and gases generated:

1. Use exhaust blowers or air siphons to remove gases and fumes from breathing zone in open areas.
2. Work in poorly ventilated areas will require respiratory protection.
3. Work in confined spaces will require air-supplied respirator.

Short Arc Consumable Electrode Gas Shield* (MIG)

| Wire | Basic Elements | Harmful Byproducts | Precautions* |
|--------------------|---------------------------------|-----------------------|--------------|
| 18-8 Stainless | 18% Chromium, 8 % Nickel, Steel | Chromium,Nickel,Ozone | B |
| 25-20 Stainless | 25% Chromium, 20% Nickel, Steel | Chromium,Nickel,Ozone | B |
| Oxweld 63 | 98% Copper | Copper, Ozone | B |
| Airco 110 | 98% Copper | Copper, Ozone | B |
| Oxweld 62 | 91.5% Copper, Aluminum | Copper, Ozone | B |
| Type 316 Stainless | 18% Chromium, 13% Nickel, Steel | Copper, Nickel, Ozone | B |
| Aluminum | Aluminum | Ozone | B |
| Hastelloy B | Nickel, Molybdenum | Nickel, Ozone | B |
| Inconel 62 | Chromium, Nickel | Nickel, Ozone | B |
| Oxweld 65 | Iron | | B |

*High levels of ultraviolet light produced. Avoid eye flash with side shield goggles. Avoid skin burns with proper clothing.

B. Moderate amounts of fumes generated:

1. Use exhaust blowers or air siphons to remove fumes from breathing zone in open areas.

2. Work in confined spaces or poorly ventilated areas will require high efficiency particulate respirators.

Acetylene Welding and Brazing

| Wire | Basic Elements | Harmful Byproducts | Precautions |
|----------------|---|-------------------------|-------------|
| Hastelloy D | Silicon, 90% Nickel | Nickel | A |
| Oxweld 5M | Copper, Zinc, Tin | Copper, Zinc | B |
| 1 Oxweld | Steel | | A |
| Aluminum | Aluminum | | A |
| Everdur 1010 | Copper, Silicon | Copper | A |
| Arcosil J | 56% Silver, 22% Copper 17% zinc, 5% Tin | Copper, Zinc | B |
| Oxweld 28 | 18% Chromium, 8% Nickel, Steel | Chromium, Nickel | B |
| 18-8 Stainless | 18% Chromium, 8% Nickel, Steel | Chromium, Nickel | B |
| Easy-Flo | 45% Silver, 15% Copper 25% Cadmium, 16% Zinc | Copper, Cadmium Zinc | B |
| Sil-Fos | 15% silver, 80% Copper 5% Phosphorus | Copper | B |
| Oxweld 372 | 98% Copper | Copper | B |
| Colmonoy 6 | 65% Cobalt, 28% Chromium | Cobalt, Chromium | B |
| Chromium | Tungsten | | |
| Stoodite | Iron, 30% Chromium | Chromium | B |
| Borod | Tungsten Carbide, Iron | | |

A. No special precautions are needed in open or well-ventilated areas. Work in confined spaces or poorly ventilated areas may require fume filter-type respirators. Consult the mechanical welding and metals supervisor.

B. Moderate amounts of fumes generated:

1. Use exhaust blowers or air siphons to remove fumes from breathing zone in open areas.
2. Work in confined spaces will require high efficiency particulate respirators.

Silver Soldering and Soldering

| Rod, Wire | Basic Elements | Harmful Byproducts | Precautions* |
|-------------|-------------------------------|-----------------------|--------------|
| 1801 Super | Silver, Copper, Cadmium, Zinc | Copper, Cadmium, Zinc | B |
| 1602 | Silver, Copper, Tin | Copper | B |
| 18 FC | Copper, Tin Zinc | Copper, Zinc | B |
| 16 FC | Silver Copper, Nickel | Copper, Nickel | B |
| 15 Phoson | Silver Copper Phosphorous | Copper | B |
| 11 Allstate | Copper, Zinc, Nickel | Copper, Zinc, Nickel | B |

B. Moderate amounts of fumes generated:

1. Use exhaust blowers or air siphons to remove fumes from breathing zone in open areas.

2. Work in confined spaces will require high efficiency particulate respirators.

Air Arc Cutting and Gouging (Carbon Rod)*

| Material Worker | Basic Elements | Harmful Byproducts | Precautions* |
|------------------|-----------------------|--------------------|--------------|
| Steel | Iron | Iron Oxides | D |
| Cast Iron | Iron | Iron Oxides | D |
| Monel | Copper, Nickel | Copper, Nickel | D |
| Stainless Steels | Chromium Nickel, Iron | Chromium, Nickel | D |
| Chrome Steels | Chromium, Iron | Chromium | D |
| Brass | Copper, Zinc | Copper, Zinc | D |
| Copper | Copper | Copper | D |
| Aluminum | Aluminum | Nickel Oxides | D |
| High Nickel | Nickel | Nickel Oxides | D |

Trenching & Excavation Policy Supplement

Scope and Application:

This policy sets forth the official practices required for excavations made by EVOLUTION MAINTENANCE employees on property owned by EVOLUTION MAINTENANCE.

Definitions:

Aluminum hydraulic shoring means an engineered shoring system comprised of aluminum hydraulic cylinders (crossbraces), used in conjunction with vertical rails (uprights) or horizontal rails (walers). Such a system is designed specifically to support the sidewalls of an excavation and prevent cave-ins.

Benching means a method of protecting employees from cave-ins by excavating the sides of an excavation to form one or a series of horizontal levels or steps, usually with vertical or near-vertical surfaces between levels.

Cave-in means the separation of a mass of soil or rock material from the side of an excavation, or the loss of soil from under a trench shield or support system, and its sudden movement into the excavation, either by falling or sliding, in sufficient quantity so that it could entrap, bury, or otherwise injure and immobilize a person.

Competent person means one who is capable of identifying existing and predictable hazards in the surroundings, or working conditions that are unsanitary, hazardous, or dangerous to employees, and who has authorization to take prompt corrective measures to eliminate them. All competent persons must complete the 4-hour Physical Plant trenching and shoring class, successfully pass the exam, and be certified for successful completion of the class. A competent person should have and be able to demonstrate the following:

Training, experience, and knowledge of:

- soil analysis,
- use of protective systems, and
- requirements of 29 CFR 1926 Subpart P.

Ability to detect:

- conditions that could result in cave-ins,
- failures in protective systems,
- hazardous atmospheres, and
- other hazards including those associated with confined spaces.

Authority to take prompt corrective measures to eliminate existing and predictable hazards and to stop work when required.

Excavation means any man-made cut, cavity, trench, or depression in an earth surface, formed by earth removal.

Registered professional engineer means a person who is registered as a professional engineer.

Shield (shield system) means a structure that is able to withstand the forces imposed on it by a cave-in and thereby protect employees with the structure. Shields can be permanent structure or can be designed to be portable and moved along as work progresses. Also known as trench box or trench shield.

Shoring (shoring system) means a structure such as a metal hydraulic, mechanical or timber shoring system that supports the sides of an excavation and which is designed to prevent cave-ins.

Sloping (sloping system) means a method of protecting employees from cave-ins by excavating to form sides of an excavation that are inclined away from the excavation so as to prevent cave-ins. The angle of incline varies with differences in such factors as the soil type, environmental conditions of exposure, and application of surcharge loads.

Trench (trench excavation) means a narrow excavation (in relation to its length) made below the surface of the ground. In general, the depth is greater than the width, but the width of a trench is not greater than 15 feet. If forms or other structures are installed or constructed in an excavation as to reduce the dimension measured from the forms or structure to the side of the excavation to 15 feet or less, the excavation is also considered to be a trench.

General Requirements:

All excavations shall be made in accordance with the rules, regulations, requirements, and guidelines set forth in 29 CFR 1926.650, .651, and .652; the Occupational Safety and Health Administration's standard on Excavations, except where otherwise noted below.

Procedures:

A competent person shall be placed in charge of all excavations. Underground utilities must be located and marked before excavation begins. Employees are not allowed in the excavation while heavy equipment is digging.

Inspections:

The competent person shall conduct inspections:

- Daily and before the start of each shift by using the DAILY EXCAVATION CHECKLIST found at the end of this chapter
- As dictated by the work being done in the trench. After every rainstorm.
- After other events that could increase hazards, such as snowstorm, windstorm, thaw, earthquake, dramatic change in weather, etc.
- When fissures, tension cracks, sloughing, undercutting, water seepage, bulging at the bottom, or other similar conditions occur.
- When there is a change in the size, location, or placement of the spoil pile. When there is any indication of change or movement in adjacent structures.

(For excavations 4 feet or greater in depth, a trench inspection form shall be filled out for each inspection.)

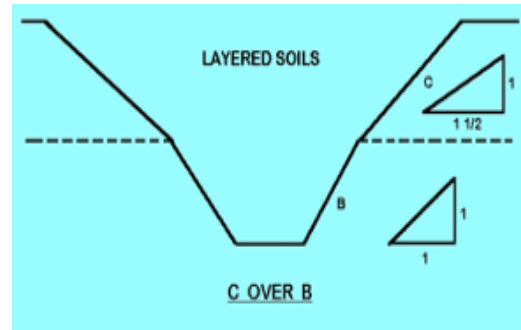
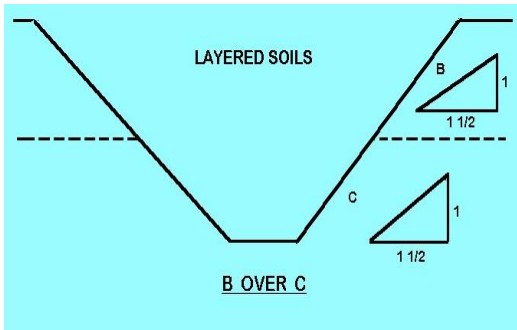
Soil Types:

Type A - Most stable: clay, silty clay, and hardpan (resists penetration). No soil is Type A if it is fissured, is subject to vibration of any type, has previously been disturbed, or has seeping water.

Type B - Medium stability: silt, sandy loam, medium clay and unstable dry rock; previously disturbed soils unless otherwise classified as Type C; soils that meet the requirements of Type A soil but are fissured or subject to vibration.

Type C - Least stable: gravel, loamy sand, soft clay, submerged soil or dense, heavy unstable rock, and soil from which water is freely seeping.

Layered geological strata (where soils are configured in layers) - The soil must be classified on the basis of the soil classification of the weakest soil layer. Each layer may be classified individually if a more stable layer lies below a less stable layer, i.e. where a Type C soil rests on top of stable rock.



Testing Methods

The competent person in charge of the excavation shall be responsible for determining whether the soil is Type B or C. The competent person shall use a visual test coupled with one or more manual tests.

Visual test

In addition to checking the items on the trench inspection form, the competent person should perform a visual test to evaluate the conditions around the site. In a visual test, the entire excavation site is observed, including the soil adjacent to the site and the soil being excavated. The competent person also checks for any signs of vibration.

During the visual test, the competent person should check for crack-line openings along the failure zone that would indicate tension cracks, look for existing utilities that indicate that the soil has been previously disturbed, and observe the open side of the excavation for indications of layered geologic structuring.

This person should also look for signs of bulging, boiling, or sloughing, as well as for signs of surface water seeping from the sides of the excavation or from the water table.

In addition, the area adjacent to the excavation should be checked for signs of foundations or other intrusions into the failure zone, and the evaluator should check for surcharging and the spoil distance from the edge of the excavation.

Manual tests

Thumb penetration test- Attempt to press the thumb firmly into the soil in question. If the thumb penetrates no further than the length of the nail, it is probably Type B soil. If the thumb penetrates the full length of the thumb, it is Type C. It should be noted that the thumb penetration test is the least accurate testing method.

Dry strength test- Take a sample of dry soil. If it crumbles freely or with moderate pressure into individual grains it is considered granular (Type C). Dry soil that falls into clumps that subsequently break into smaller clumps (and the smaller clumps can only be broken with difficulty) it is probably clay in combination with gravel, sand, or silt (Type B).

Plasticity or Wet Thread Test- Take a moist sample of the soil. Mold it into a ball and then attempt to roll it into a thin thread approximately 1/8 inch in diameter by two inches in length. If the soil sample does not break when held by one end, it may be considered Type B.

A pocket penetrometer, shear vane, or torvane may also be used to determine the

unconfined compression strength of soils.

Spoil

- Temporary spoil shall be placed no closer than 2 feet from the surface edge of the excavation, measured from the nearest base of the spoil to the cut. This distance should not be measured from the crown of the spoil deposit. This distance requirement ensures that loose rock or soil from the temporary spoil will not fall on employees in the trench.
- Spoil should be placed so that it channels rainwater and other run-off water away from the excavation. Spoil should be placed so that it cannot accidentally run, slide, or fall back into the excavation.
- Permanent spoil should be placed some distance from the excavation.

Surface Crossing of Trenches

- Surface crossing of trenches should not be made unless absolutely necessary. However, if necessary, they are only permitted under the following conditions:
- Vehicle crossings must be designed by and installed under the supervision of a registered professional engineer.
- Walkways or bridges must: have a minimum clear width of 20 inches, be fitted with standard rails, and extend a minimum of 24 inches past the surface edge of the trench.

Ingress and Egress

- Trenches 4 feet or more in depth shall be provided with a fixed means of egress.
- Spacing between ladders or other means of egress must be such that a worker will not have to travel more than 25 feet laterally to the nearest means of egress.
- Ladders must be secured and extend a minimum of 36 inches above the landing.
- Metal ladders should be used with caution, particularly when electric utilities are present.

Exposure to Vehicles

Employees exposed to vehicular traffic shall be provided with and required to wear reflective vests or other suitable garments marked with or made of reflectorized or high-visibility materials.

Trained flag persons, signs, signals, and barricades shall be used when necessary.

Exposure to Falling Loads

- All employees on an excavation site must wear hard hats. Employees are not allowed to work under raised loads.
- Employees are not allowed to work under loads being lifted or moved by heavy equipment used for digging or lifting.
- Employees are required to stand away from equipment that is being loaded or unloaded to avoid being struck by falling materials or spillage.
- Equipment operators or truck drivers may remain in their equipment during loading and unloading if the equipment is properly equipped with a cab shield or adequate canopy.

Warning Systems for Mobile Equipment

- The following steps should be taken to prevent vehicles from accidentally falling into the trench: Barricades must be installed where necessary,
- Hand or mechanical signals must be used as required,
- Stop logs must be installed if there is danger of vehicles falling into the trench.
- Soil should be graded away from the excavation; this will assist in vehicle control and channeling of run-off water.
- Trenches left open overnight shall be fenced and barricaded

Hazardous Atmospheres and Confined Spaces

- Employees shall not be permitted to work in hazardous and/or toxic atmospheres. Such atmospheres include those with:
- less than 19.5% oxygen,
- a combustible gas concentration greater than 20% of the lower flammable limit, and,
- concentrations of hazardous substance that exceed those specified in the Threshold Limit Values for airborne contaminants established by the ACGIH.

All operations involving such atmospheres must be conducted in accordance with OSHA requirements for occupational health and environmental controls for personal protective equipment and for lifesaving equipment. Engineering controls (such as ventilation) and respiratory equipment may be required.

Testing for Atmospheric Contaminants

- If there is any possibility that the trench or excavation could contain a hazardous atmosphere, atmospheric testing must be conducted prior to entry. Conditions that might warrant atmospheric testing would be if the excavation was made in a landfill area or if the excavation was crossed by, was adjacent to, or contained pipelines containing a hazardous material (for example, natural gas lines).
- Testing should be conducted before employees enter the trench and should be done regularly to ensure that the trench remains safe. The frequency of testing should be increased if equipment is operating in the trench.
- Testing frequency should also be increased if welding, cutting, or burning is done in

the trench.

- Employees required to wear respiratory protection must be trained, fit-tested, and enrolled in a respiratory protection program.
- Some trenches qualify as confined spaces. When this occurs, compliance with the EVOLUTION MAINTENANCE Confined Space Program is also required.

Standing Water and Water Accumulation

- Methods for controlling standing water and water accumulation must be provided and should consist of the following if employees must work in the excavation:
- Use of special support or shield systems approved by a registered professional engineer. Water removal equipment, such as well pointing, used and monitored by a competent person.
- Safety harnesses and lifelines used in conformance with 29 CFR 1926.104. Employees removed from the trench during rainstorms
- Trenches carefully inspected by a competent person after each rain and before employees are permitted to re-enter the trench.

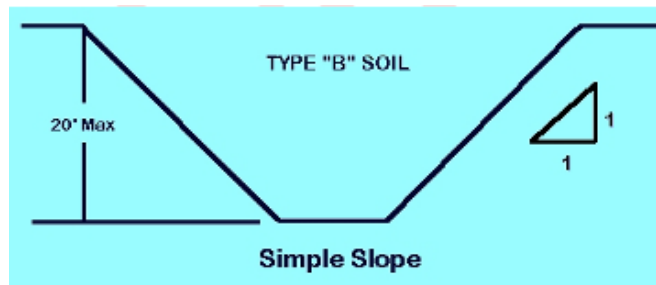
Benching, Sloping, Shoring, and Shielding Requirements

- All excavations or trenches 4 feet or greater in depth shall be appropriately benched, shored, or sloped according to the procedures and requirements set forth in OSHA's Excavation standard, 29 CFR 1926.650, .651, and .652.
- Excavations or trenches 20 feet deep or greater must have a protective system designed by a registered professional engineer.
- Excavations under the base of footing of a foundation or wall requires a support system designed by a registered professional engineer.
- Sidewalks and pavement shall not be undermined unless a support system or another method of protection is provided to protect employees from their possible collapse.

Sloping

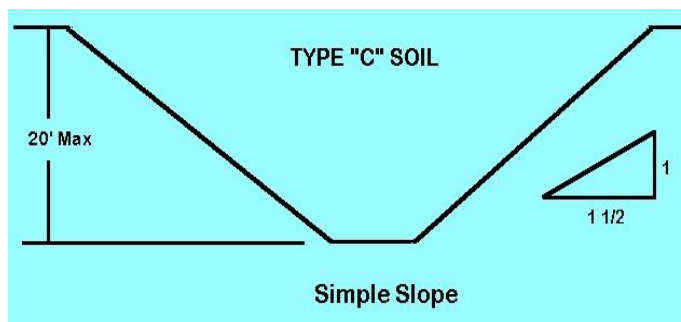
Maximum allowable slopes for excavations less than 20' based on soil type and angle to the horizontal are as follows:

| Soil Type | Height/depth ratio | Slope angle |
|------------------|---------------------------|--------------------|
| Type B | 1:1 | 45 degrees |
| Type C | 1 1/2:1 | 34 degrees |



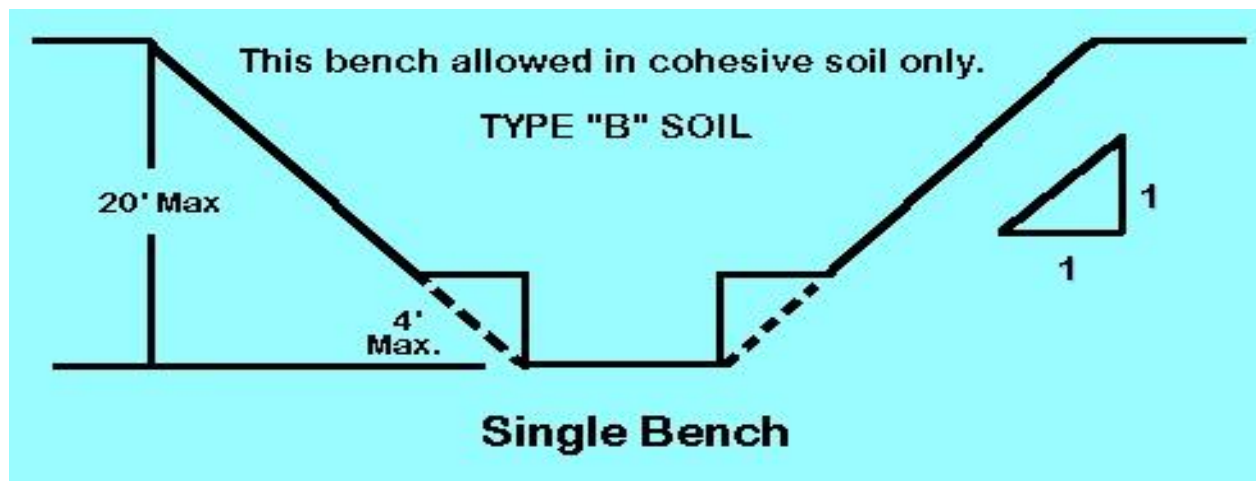
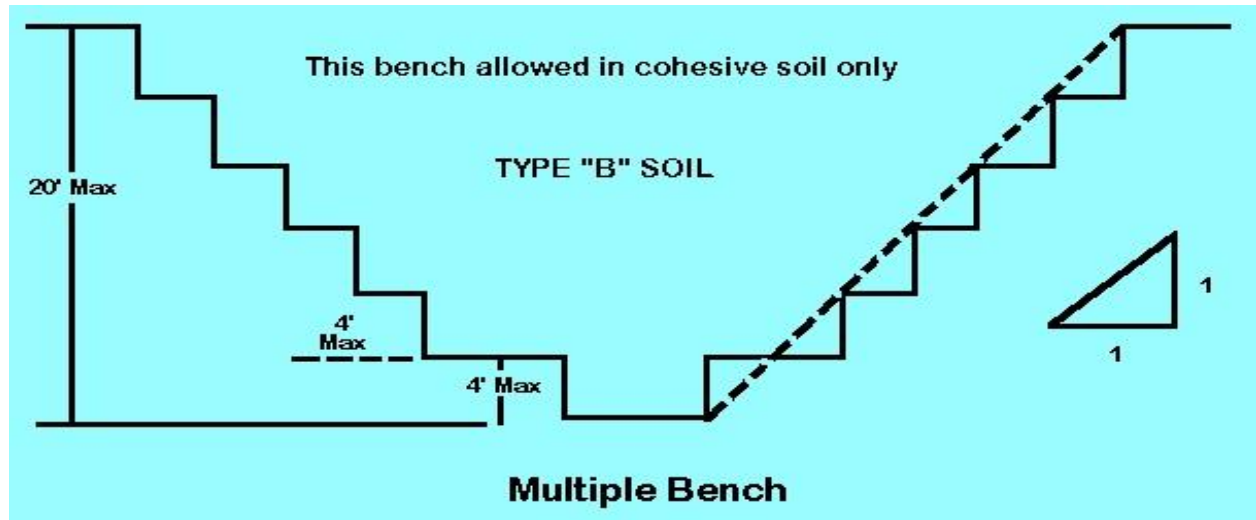
10-foot-deep trench in Type B soil would have to be sloped to a 45-degree angle, or sloped 10 feet back in both directions. Total distance across a 10-foot-deep trench would be 20 feet, plus the width of the bottom of the trench itself. In Type C soil, the trench would be sloped at a 34-degree angle, or 15 feet back in both directions for at least 30 feet across, plus the width of the bottom of the trench itself.

All simple slope excavations 20 feet or less in depth shall have a maximum allowable slope of 1 ½:1



Benching

- There are two basic types of benching, single and multiple, which can be used in conjunction with sloping.
- All benched excavations 20 feet or less in depth shall have a maximum allowable slope of 1:1.



In Type B soil, the vertical height of the benches must not exceed 4 feet. Benches must be below the maximum allowable slope for that soil type. In other words, a 10-foot deep trench in Type B soil must be benched back 10 feet in each direction, with the maximum of a 45-degree angle. Benching is not allowed in Type C soil.

Shoring

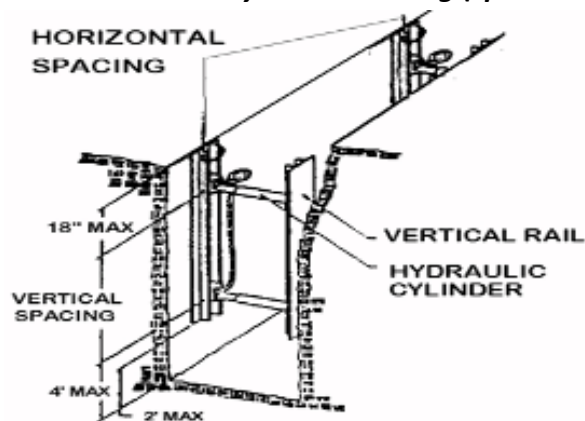
- Shoring or shielding is used when the location or depth of the cut makes sloping back to the maximum allowable slope impractical. There are two basic types of shoring, timber and aluminum hydraulic.
- Hydraulic shoring provides a critical safety advantage over timber shoring because workers do not have to enter the trench to install them. They are also light enough to be installed by one worker; they are gauge-regulated to ensure even distribution of pressure along the trench line; and they can be adapted easily to various trench depths and widths. However, if timber shoring is used, it must meet the requirements

of 29 CFR 1926.650, .651, and .652.

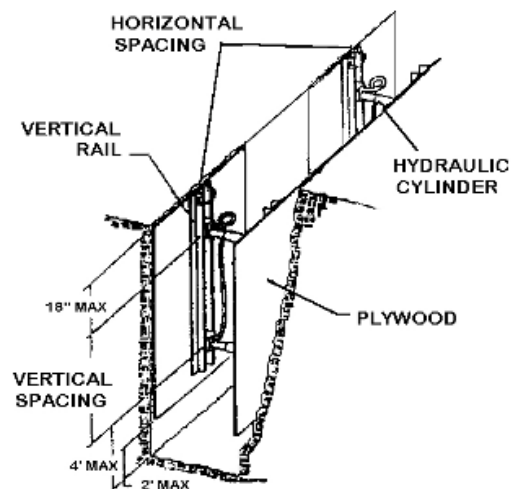
- All shoring shall be installed from the top down and removed from the bottom up. Hydraulic shoring shall be checked at least once per shift for leaking hoses and/or cylinders, broken connections, cracked nipples, bent bases, and any other damaged or defective parts.
- The top cylinder of hydraulic shoring shall be no more than 18 inches below the top of the excavation.
- The bottom of the cylinder shall be no higher than four feet from the bottom of the excavation. (Two feet of trench wall may be exposed beneath the bottom of the rail or plywood sheeting, if used.)
- Three vertical shores, evenly spaced, must be used to form a system.
- Wales are installed no more than two feet from the top, no more than four feet from the bottom, and no more than four feet apart, vertically.

Here are some typical installations of aluminum hydraulic shoring:

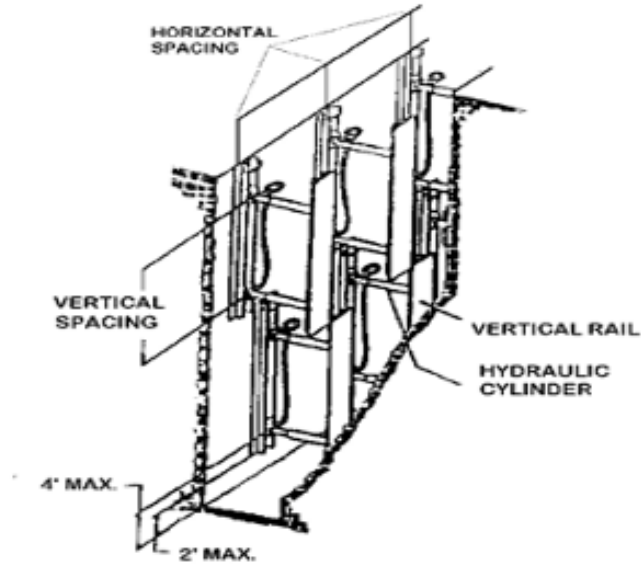
Vertical aluminum hydraulic shoring (spot bracing)



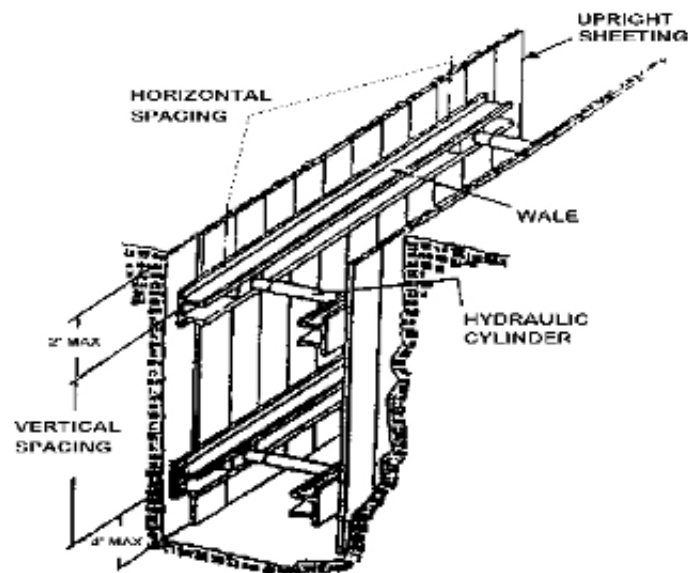
Vertical aluminum hydraulic shoring (w/plywood)



Vertical aluminum hydraulic shoring (stacked)



Aluminum hydraulic shoring waler system (typical)

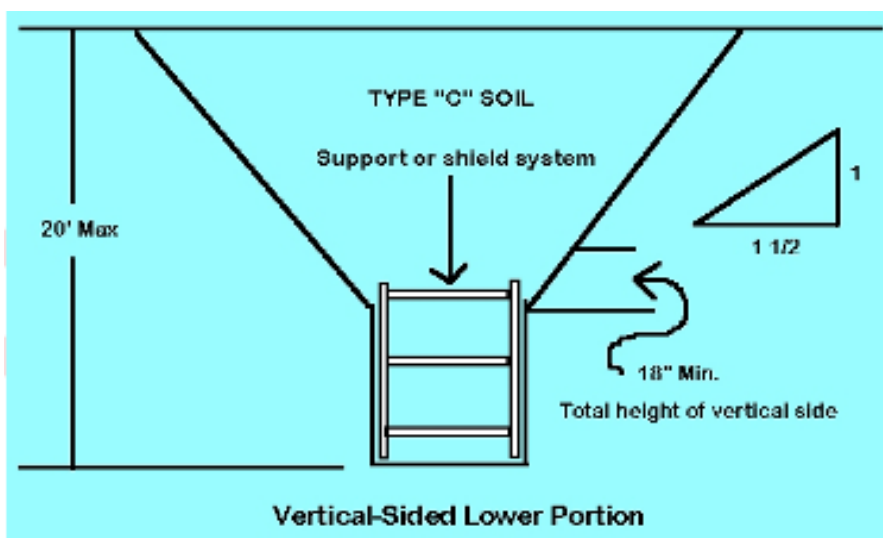
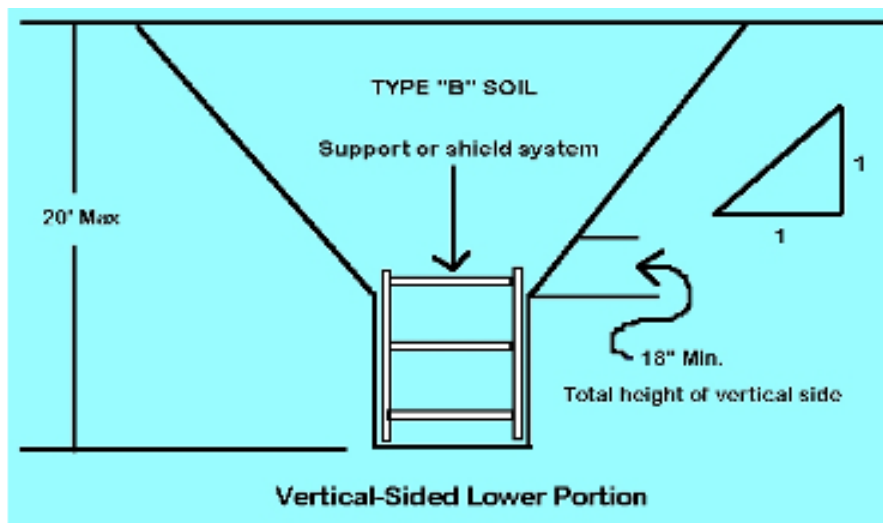


Shielding

- Trench boxes are different from shoring because, instead of shoring up or otherwise supporting the trench face, they are intended primarily to protect workers from cave-ins and similar incidents.
- The excavated area between the outside of the trench box and the face of the trench should be as small as possible. The space between the trench box and the excavation side must be backfilled to prevent lateral movement of the box. Shields may not be subjected to loads exceeding those which the system was designed to withstand.
- Trench boxes are generally used in open areas, but they also may be used in

- combination with sloping and benching.
- The box must extend at least 18 inches above the surrounding area if there is sloping toward the excavation. This can be accomplished by providing a benched area adjacent to the box.
 - Any modifications to the shields must be approved by the manufacturer.
 - Shields may ride two feet above the bottom of an excavation, provided they are calculated to support the full depth of the excavation and there is no caving under or behind the shield.
 - Workers must enter and leave the shield in a protected manner such as by a ladder or ramp. Workers may not remain in the shield while it is being moved.

Illustration of shielding systems in B and C type soils



Evolution Maintenance, Inc.
Supplemental Policies and Procedures

Daily Excavation Checklist

| | | | |
|--------------------------|--|----------------------------|--|
| Client | | Date | |
| Project Name | | Approximate Temp. | |
| Project Location | | Approximate Wind Direction | |
| Job # | | Safety Rep | |
| Excavation Depth & Width | | Soil Classification | |
| Protective System Used | | | |
| Activities in Excavation | | | |
| Competent Person | | | |

Excavation > 4 feet deep? ____Yes ____No.

If YES, fill out a Confined Space Permit PRIOR to ANY person entering the excavation.

NOTE: Trenches over 4 feet in depth are considered excavations. Any items marked NO on this form MUST be remediated prior to any employees entering the excavation.

| YES | NO | N/A | Description |
|-----|----|-----|--|
| | | | GENERAL |
| | | | Employees protected from cave-ins & loose rock/soil that could roll into the excavation |
| | | | Spoils, materials & equipment set back at least 2 feet from the edge of the excavation |
| | | | Engineering designs for sheeting &/or manufacturer's data on trench box capabilities on site |
| | | | Adequate signs posted and barricades provided |
| | | | Training (toolbox meeting) conducted w/ employees prior to entering excavation |

| YES | NO | N/A | Utilities |
|-----|----|-----|--|
| | | | Utility company contacted & given 24 hr notice &/or utilities already located & marked |
| | | | Overhead lines located, noted and reviewed with the operator |
| | | | Utility locations reviewed with the operator, & precautions taken to ensure contact does not occur |
| | | | Utilities crossing the excavation supported, and protected from falling |
| | | | Underground installations protected, supported or removed when excavation is open |

Evolution Maintenance, Inc.
Supplemental Policies and Procedures

| YES | NO | N/A | Wet Conditions |
|-----|----|-----|---|
| | | | Air in the excavation tested for oxygen deficiency, combustibles, other contaminants Ventilation used in atmospheres that are oxygen rich/deficient &/or contains hazardous substances |
| | | | Ventilation provided to keep LEL below 10 % |
| | | | Emergency equipment available where hazardous atmospheres could or do exist |
| | | | Safety harness and lifeline used |
| | | | Supplied air necessary (if yes, contact safety department) |

| YES | NO | N/A | Entry & Exit |
|-----|----|-----|---|
| | | | Exit (i.e. ladder, sloped wall) no further than 25 feet from ANY employee |
| | | | Ladders secured and extend 3 feet above the edge of the trench |
| | | | Wood ramps constructed of uniform material thickness, cleated together @ the bottom |
| | | | Employees protected from cave-ins when entering or exiting the excavation |

KEEP 1 COPY OF EACH DAILY EXCAVATION CHECKLIST ON SITE FOR THE PROJECT DURATION, AND FORWARD THE ORIGINAL TO THE SAFETY MANAGER

SOIL ANALYSIS CHECKLIST

| | | | |
|------------------------------------|----|---------|----|
| Client | | Date | |
| Project Name | | Job # | |
| Project Location | | Weather | |
| Competent Person | | | |
| Where was the sample taken from | | | |
| Excavation length, depth and width | L: | D: | W: |

| VISUAL TEST | | | | | | |
|------------------|-------------------------|-----|--|-----|---------------|-----------------------|
| Particle type | Fine Grained (Cohesive) | | Granular (sand/silt or gravel) | | Other: | |
| Water Conditions | | | Wet | Dry | Seeping Water | Surface Water present |
| | | | | | | Submerged |
| Notes | | | | | | |
| Yes | No | N/A | Description | | | |
| | | | Layered Soils Dipping Into excavation? If yes, describe: | | | |
| | | | Excavation exposed to vibrations? If yes, describe: | | | |
| | | | Previously disturbed soils? | | | |
| | | | Crack like openings or sprawlings observed? | | | |
| | | | Underground utilities? If yes, what type: | | | |
| | | | Layered soils? (Note: the least stable layer controls the soil type) | | | |

| MANUAL TEST | | | | | |
|-------------|--|--------------|--------------|---------------------------------|-------------------------------------|
| Plasticity | Cohesive | Non-cohesive | Dry Strength | Cohesive (broken w/ difficulty) | Granular |
| Wet Shake | Water comes to surface (granular material) | | | | Surface remains dry (clay material) |

| THUMB TEST Note: Used to estimate unconfined compression strength of cohesive soil. | | | | |
|---|-----|----|------------------------------|--------|
| Test Performed | Yes | No | N/A, Explain: | |
| Soil indented by thumb with very great effort? | | | | Type A |
| Soil indent by thumb with some effort? | | | | Type B |
| Soil easily penetrated several inches by thumb with little or no effort. NOTE: If soil is submerged, seeping water, subjected to surface water, runoff, exposed to wetting. | | | | Type C |
| PENETROMETER or SHEARVANE TEST Note: Used to estimate unconfined compressive strength of cohesive soils. | | | | |
| Test Performed | Yes | No | Device Used / Serial Number: | |
| Soil with unconfined compressive strength of 1.5 tsf or greater | | | | Type A |
| Soil with unconfined compressive strength of greater than 0.5 tsf and less than 1.5 tsf. | | | | Type B |
| Soil with unconfined compressive strength of 0.5 tsf or less. Note: if the soil is submerged, seeping water, subjected to surface water, runoff, exposed to wetting. | | | | Type C |

No soil is Type A if fissured, subject to vibration, previously disturbed, layered dipping into excavation on a slope of 4h: 1v

| SOIL CLASSIFICATION | | | |
|---|--------------------------------|--|-----------------------------------|
| Stable Rock | Type A | Type B | Type C |
| SELECTION OF PROTECTIVE SYSTEM (Refer to Appendix F of 29CFR1926) | | | |
| Sloping (Appendix B) Specify angle: | Timber Shoring (Appendix C) | Trench Shield Max depth in this soil: | Hydraulic Shoring (Appendix D) |

Keep one copy of each Soil Analysis Checklist on site for project duration - Forward original to the Safety Director at the Main Office

Noise/Hearing Conservation Policy Supplement

Purpose

The company has established a Hearing Conservation Program to protect worker(s) from the hazards of noise on the job. Provincial OHS Act and Regulations require that each employer implement a hearing conservation program when workers are exposed to noise levels exceeding 85 dB. It is not hard to exceed this level of noise on many of the jobs sites. Typically, noise levels exceeding 85 dB are experienced when working with any type of pneumatic chipper or hammer, metal saw, grinders and heavy machinery. See attachment I for list of some common noise levels.

Responsibility

The Manager of Operations is responsible for the developing a written Hearing Conservation Procedure and overseeing the training of all employees in the company. The Manager of Operations is also responsible for the monitoring and administering this procedure.

Introduction

The OSHA Standard on Occupational Noise Exposure, 29 CFR 1910.95, established the permissible limit of noise as 85 dB(A) (decibels), expressed as an eight-hour (8-hours), time-weighted average, (TWA). This standard allows short-term unprotected noise exposure up to a maximum of 115dB (A), peak sound.

The noise standard requires the identification by personnel monitoring of employees who may be exposed above the 85 db (A), 8-hour, TWA. Hearing protection is also required for specific activities or using certain types of equipment.

Procedures

The company has taken a conservative approach to noise hazards by establishing this program. The following elements establish the program:

- An Audiometric Testing Program
- An Employee Education and Training Program
- Monitoring and Analysis of Workplace Noise Levels
- Providing Suitable Engineering Controls
- Providing Hearing Protectors
- Maintain required Records

Audiometric Testing Program

Each new employee whose work exposes them to “excess noise levels” as defined by the provincial OHS Regulation, will receive an Audiometric test as part of a pre-screening physical examination to establish a baseline audiogram against which subsequent audiograms can be compared.

Evolution Maintenance, Inc.
Supplemental Policies and Procedures

Annually, all employees who are exposed to noise levels exceeding the 85 dB standard will be given a follow-up Audiometric examination to monitor for any significant changes in their hearing ability. Employees will be formally notified if there is any change in their hearing as the result of the testing. The Standard has defined this shift as a change in hearing threshold relative to the baseline audiogram of an average of 10 dB or more at 200, 3000 and 4000 hz in either ear. In determining whether a standard threshold shift has occurred, allowance may be made for the contribution of aging (presbycusis) to the change in hearing level by correcting the annual audiogram according to the procedure described in Appendix F: "Calculation and Application of Age Correction to Audiograms." When audiometric testing is required, each affected employee must not be exposed to any workplace noise for at least 14 hours prior to his/her test. This requirement may be met by wearing hearing protectors which will reduce the employee's exposure to a sound level of 80 db (A) or below.

Audiometric tests shall be performed by a licensed or certified audiologist, otolaryngologist, or other physician, or by a technician who is certified by the Council of Accreditation in Occupational Hearing Conservation, or who has satisfactorily demonstrated competence in administering audiometric examinations, obtaining valid audiograms, and properly using, maintaining and checking calibration and proper functioning of the audiometers being used. A technician who operates microprocessor audiometer does not need to be certified. A technician who performs audiometric tests must be responsible to an audiologist, otolaryngologist or physician.

An audiologist, otolaryngologist or physician will review problem audiograms and shall determine whether there is a need for further evaluation. The company will provide to the person performing this evaluation the following information:

- a. A copy of the 29 CFR 1910.95 Hearing Conservation.
- b. The baseline audiogram and most recent audiogram of the employee to be evaluated.
- c. Measurement of background sound pressure in the audiometric test room as required in 29 CFR 1910.95 Appendix D.
- d. Records of audiometric calibrations as required by 20 CFR 1910.95 Appendix E.

If a comparison of the annual audiogram to the baseline audiogram indicates a standard threshold shift as defined by OSHA, the employee will be informed of this fact, in writing, by the company within 21 days of determination.

Unless a physician determines that the standard threshold shift is not work related or aggravated by occupational noise exposure, the company will ensure that the following steps are taken when a standard threshold shift occurs:

- a. An employee not using hearing protectors will be fitted with hearing protectors, trained their use and care, and required to use them; and

- b. An employee already using hearing protectors shall be refitted and retrained in the use of hearing protectors and provided with hearing protectors offering greater attenuation if necessary.
- c. Refer the employee for a clinical audiological evaluation or an otological examination, as appropriate, if additional testing is necessary or if the company suspect that a medical pathology of the ear is caused or aggravated by the wearing of hearing protectors.
- d. Inform the employee of the need for an otological examination if a medical pathology of the ear which is unrelated to the use of hearing protector is suspected.

If subsequent audiometric testing of an employee whose exposure to noise is less than an 8-hour TWA average of 90 decibels indicates that a standard threshold shift is not persistent the company:

- a. Will inform the employee of the new audiometric interpretations: and
- b. May stop the required use of hearing protectors for that employee.

Employee Education and Training

The company employees must be trained on the use of personal hearing protection equipment. Also each employee must know how to clean and maintain the hearing protection equipment.

- The training will cover the following:
- Training will be for all employees who are exposed to noise at or above the 8-hour TWA of 85 dB.
- The training will be repeated annually for each employee included in the hearing conservation program.
- The effects of noise on hearing
- The purpose of hearing protectors, the advantages, disadvantages, and the attenuation of various types and instruction on selection, fitting, use and care
- The purpose of audiometric testing, and an explanation of the test procedures.
- Access to information and training materials.

Monitoring and Analysis of Workplace Noise Levels

The companies will periodically or as necessary, conduct noise level surveys of the workplace. The results of these surveys will be made available to employees.

Any job area or company location found to be in excess of the allowable designated noise levels that cannot be brought into compliance with the noise standard will be designated as an area where hearing protectors are to be worn. When signs are posted employees must wear hearing protection. The signs may read as follows:

**NOTICE
EAR PROTECTION
REQUIRED
IN THIS AREA**

REMEMBER: A client may determine if a unit or work area is classified as a high noise area. After the determination is made, company employees will be instructed to wear the appropriate hearing protection.

Provide Suitable Engineering Controls

Where appropriate, the company will provide engineering controls to reduce noise exposure. Due to the complexity of most job sites, it is difficult if possible to institute effective engineering controls for most noise exposures. Should this be the case, then employees will be required to wear suitable hearing protection.

Provide Hearing Protectors Where Required

The company will provide the required employees with hearing protectors if his/her 8 hour TWA is above the 85dB (A). The company will also make hearing protectors available to all employees exposed to a TWA above 85dB (A) at no cost to the employee. Any employee who may have a significant threshold shift of hearing level will be required to wear hearing protection if they are exposed to noise TWA of 85dB. The company will ensure all Hearing protectors meet the requirements in CSA Standard Z94.2-02, Hearing Protection Devices – Performance, Selection, Care and Use. The company will make a concerted effort to find the right protector for each employee, one that offers the right attenuation, is accepted on the terms of comfort, and is used by the employee.

Responsibilities

A CLIENT WILL:

- a. Determine all sources of noise at or above 85dB.
- b. Determine if personnel have 8-hour TWA exposures at or above fifty-percent (50%) of the OSHA allowable.
- c. Review noise exposures annually for all job classifications with TWA
- d. Exposure at or above fifty-percent (50%)
- e. Ensure that audiograms are made annually for personnel whose TWA exposures are at or above fifty-percent (50%) of the OSHA allowable.

JOB SITE SUPERVISION WILL:

- a. Will require hearing protection in all area with noise levels at or above the 85dB(A) and for all task which generate such noise level (i.e., grinding, hammering). Ear plug shall be required in an area and/or on tasks with the sound levels exceeding 105dB.
- b. To alert employees to possible hazardous noise exposures, Signs shall be posted in work areas in which the sound levels may exceed 85dB. These signs will be posted by the client.
- c. Evaluate the need for engineering and/or administrative controls to reduce the noise levels below

the 85 dB and, where feasible, develop a plan to reduce all personnel exposures to less than fifty- percent (50%) of the OSHA allowable.

- d. Make hearing protection available and enforce its use by all employees with TWA exposures at or above the fifty-percent (50%) of the OSHA allowable and/or by those who must enter or work in areas where the noise level is 85dB or above.

REMEMBER - The client determines if a unit or work area is classified as a high noise area. After the determination is made, the company's employees will be instructed to wear the appropriate hearing protection.

Recordkeeping

All record-keeping for this program will be maintained in the office. Records will include:

- a. Audiometric tests
- b. Noise surveys
- c. Employee training
- d. Engineering controls implemented
- e. Record of purchase of hearing protector

Work required Hearing Protectors

There are many jobs or types of work that generally produces noise level that intermittently or for short durations exceed the permissible TWA. It is the policy of the company to require all workers who are engaged in these jobs to wear hearing protectors.

Hearing Protectors

Employees may choose the type of hearing protection that best suits their particular assignment and personal preference for among those listed below. Each employee required to wear hearing protection is responsible for carrying hearing protection on his/her person. Hearing protection is furnished at no cost to employees.

EAR PLUGS – Most ear plugs, when worn properly, have a noise reduction rating (NRR) on the package. Most ear plugs have NRR of about 30.

EAR MUFFS – Adjustable muffs can be worn in three positions:

| POSITION | NRR |
|--------------------|---|
| 1. Over the head | 24 this depends on the NRR of the Ear Muff) |
| 2. Under the chin | 20 |
| 3. Behind the head | 20 |

COMPUTING THE HEARING PROTECTION LEVEL

To compute the actual hearing protection level under the protector, subtract 7 dB(A) from the Noise Reduction Rating (NRR), then divide the number by 2, and subtract the remainder from the measured noise level dB (A).

For example: $NRR \text{ of } 29 - 7 = 22 \text{ dB(A)}$
 $22 \text{ dB(A)} \div 2 = 11 \text{ dB(A)}$

Noise level of $95 \text{ dB(A)} - 11 = 84 \text{ dB(A)}$
Therefore, this device offers a protection level of 11 dB(A) .

ATTACHMENT I

The following list represents some work activities and equipment which will require the use of hearing protection:

| ACTIVITIES AND/OR EQUIPMENT TYPICALLY RESULTING IN HIGH NOISE LEVEL | ESTIMATED AVERAGE NOISE LEVEL dB(A) |
|--|--|
| 1. Air Arc Gouging | 115 |
| 2. Air compressor | 95 |
| 3. Chain saw | 107 |
| 4. Electric Disc Grinder | 100 |
| 5. Forklift inside a trailer | 98 |
| 6. Heavy equipment working | 100 |
| 7. Impact tools | 108 |
| 8. Pneumatic chipping hammer | 110 |
| 9. Abrasive blasting | 100 |
| 10. Welding machines | 95 |

**ATTACHMENT II
HEARING CONSERVATION PROGRAM
FOLLOW UP TRAINING RECORD**

FROM: _____
Manager or Supervisor

The employee listed below recently was found to have a confirmed significant shift in the hearing threshold (as defined by OSHA). An investigation and additional training is required. When this form is completed and reviewed with the employee, please file in the office.

EMPLOYEE NAME: _____
Print or type First, MI, Last Name

Social Security Number or Employee Number

Reported Date

JOB CATEGORY _____
(Current Assignment)

The Potential for noise exposure and specific requirements for using hearing protection in their area should be reviewed with this employee within 2 weeks. If hearing protection requirements have not been established in this work area, it must be done as soon as possible.

The retraining for this employee should include:

- The temporary and permanent effects of noise on hearing
- Established hearing protection requirements
- Any questions the employee may have on the use of hearing protection
- The proper use of hearing protection
- Comments the employee has on potential off-the-job noise exposure

Comments on discussion held:

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I have discussed the above items with this employee:

Manager or Supervisors Name (print)

Signature

Date of Discussion

First Aid Policy Supplement

Purpose

Employees must be provided with timely, appropriate first aid treatment. This program is the basis for meeting this expectation.

Scope

This program applies to all employees, visitors and contractors under company responsibility.

First Aid and Medical Treatment

Evolution Maintenance will provide a First Aid Kit for all service vehicles and thus on each premises. It is there for employee's use in the treatment of minor scratches, burns, headaches, nausea, etc. All employees shall know the location of the First Aid Kit and shall notify their supervisor if they need to use the First Aid Kit.

If an employee has a work-related injury or illnesses that requires professional medical assistance, they shall notify their supervisor and let him/her know before they receive this assistance. If they fail to notify their supervisor, they may be ineligible for Worker's Compensation, benefits to pay for doctor's bills, and/or lost wages.

COMPANY will ensure designated first aiders have a valid certificate in first aid training from an authorized organization, and shall be contacted to render first aid, as necessary.

The Zone Facility Manager shall inspect First Aid Kits before the kits are sent out to each job and on a weekly basis to insure that they are filled and complete

FIRST AID PROCEDURES AND INSTRUCTIONS

Minor First Aid Treatment

First aid kits should be stored in each service vehicle. If an employee sustains an injury or are involved in an accident requiring minor first aid treatment, they shall:

- Inform their supervisor.
- Administer first aid treatment to the injury or wound.
- If a first aid kit is used, indicate usage on the accident investigation report.
- Access to a first aid kit is not intended to be a substitute for medical attention.
- Provide details for the completion of the accident investigation report.

Non-Emergency Medical Treatment

For non-emergency work-related injuries requiring professional medical assistance, management must first authorize treatment. If an employee sustains an injury requiring treatment other than first aid, they shall:

- Inform their supervisor.
- Proceed to the posted medical facility. The supervisor will assist with transportation, if necessary.
- Provide details for the completion of the accident investigation report.

Employees shall use the nearest wash facility or eyewash station in the event an employee accidentally spills or splashes injurious chemicals or liquids on their clothing or body. The employee will also notify the Supervisor as soon as possible.

Emergency Medical Treatment

If an employee sustains a severe injury requiring emergency treatment:

- Call for help and seek assistance from a co-worker.
- Use the emergency telephone numbers and instructions posted next to the telephone in your work area to request assistance and transportation to the local hospital emergency room.
- Provide details for the completion of the accident investigation report.

First Aid Training

Each designated first aider will receive training and instructions from his or her supervisor on the following Evolution Maintenance first aid procedures. All designated first aiders will have a valid certificate in first aid training from an authorized organization, and shall be contacted to render first aid.

WOUNDS:

Minor: Cuts, lacerations, abrasions, or punctures-

- Wash the wound using soap and water; rinse it well.
- Cover the wound using clean dressing.

Major: Large, deep and bleeding

- Stop the bleeding by pressing directly on the wound, using a bandage or cloth.
- Keep pressure on the wound until medical help arrives.

BROKEN BONES:

- Do not move the victim unless it is absolutely necessary.
- If the victim must be moved, "splint" the injured area. Use a board, cardboard, or rolled newspaper as a splint.

BURNS:

Thermal (Heat)

Rinse the burned area, without scrubbing it, and immerse it in cold water; do not use ice water.
Blot dry the area and cover it using sterile gauze or a clean cloth.

Chemical

Flush the exposed area with cool water immediately for 15 to 20 minutes.

EYE INJURY:

Small particles

Do not rub your eyes.

Use the corner of a soft clean cloth to draw particles out, or hold the eyelids open and flush the eyes continuously with water.

Large or stuck particles

If a particle is stuck in the eye, do not attempt to remove it.

Cover both eyes with bandage.

Chemical

Immediately irrigate the eyes and under the eyelids, with water, for 30 minutes.

NECK AND SPINE INJURY:

If the victim appears to have injured his or her neck or spine, or is unable to move his or her arm or leg, do not attempt to move the victim unless it is absolutely necessary.

HEAT EXHAUSTION:

Loosen the victim's tight clothing.

Give the victim "sips" of cool water.

Make the victim lie down in a cooler place with the feet raised.

CPR (Cardiopulmonary Resuscitation)

Alternative names: Rescue breathing, chest compressions - for adults; resuscitation, cardiopulmonary - for adults

Definition: CPR is a combination of rescue breathing (which provides oxygen to the victim's lungs) and chest compressions (which keep the victim's heart circulating oxygenated blood).

Considerations: CPR can be lifesaving, but it is best performed by those who have been trained in a CPR course. The procedures described here are not a substitute for CPR training.

Time is very important when dealing with an unconscious who is not breathing. Death can occur in 8 to 10 minutes and brain death begins after 4 to 6 minutes without oxygen.

Causes: Cardiopulmonary arrest is a combination of 2 life-threatening conditions: absence of breathing and no heartbeat.

Symptoms:

- No Breathing
- No pulse
- Unconsciousness

DO NOT:

- DO NOT give chest compressions if there is a heartbeat; doing so may cause the heart to stop beating.
- DO NOT move the victim's head or neck to check for breathing if a spinal injury is suspected.

Call immediately for emergency medical assistance if:

- you are not alone, have one person call the local emergency number while another person begins CPR.
- you are alone, shout for help and administer CPR.

FIRST AID:

1. Check for consciousness. Shake or tap the victim gently. See if the victim moves or makes a noise. Shout, "Are you OK?"
2. If there is no response, shout for help.
3. Position the victim on his or her back on a hard surface, keeping the back in a straight line, supporting the head and neck. Unfasten the victim's clothing if necessary to gain access to the victim's chest.
4. Kneel next to the victim's chin. Tilt the head back and lift the jaw forward to move the tongue away from the windpipe. If a spinal injury suspected, pull the jaw forward without moving the head or neck. Don't let the victim's mouth close.
5. Place your ear close to the victim's mouth and watch for chest movement. For 5 seconds, look, listen, and feel for breathing.
6. If the victim is not breathing, begin rescue breathing. Maintain the head position, close the victim's nostrils by pinching them with your thumb and index finger, and cover the victim's mouth tightly with your mouth. Give 2 slow, full breaths, with a pause in between.
7. If the chest does not rise, reposition the head and give 2 more breaths. If the chest still doesn't rise, the victim's airway is blocked. Follow instructions for choking:

Chocking Symptoms:

- unconscious
- lack of breathing
- inability to move air into the lungs with mouth-to-mouth resuscitation

DO NOT:

- DO NOT try to grasp an object that is lodged in the victim's throat. This might push it farther down the airway. If the object is visible in the mouth, it may be removed.
- DO NOT begin the chest compressions of CPR (if heartbeat has stopped) until the airway is cleared.

FIRST AID:

1. Roll the victim onto their back on a hard surface, keeping their back in a straight line, firmly supporting their head and neck. Expose the victim's chest.
2. Open the victim's mouth with your thumb and index finger, placing your thumb over his tongue and your index finger under his chin. If the object is visible and loose, remove it.
3. Lift the victim's chin while tilting the head back to move the tongue away from the windpipe. If a spinal injury is suspected, pull the jaw forward without moving the head or neck. Don't let the mouth close.
4. If the victim is not breathing, begin rescue breathing. Maintain the head position, close the victim's nostrils by pinching them with your thumb and index finger, and cover the victim's mouth tightly with your mouth. Give 2 slow, full breaths, with a pause in between.
5. If the victim's chest does not rise, reposition the head and give 2 more breaths.
6. If the victim's chest still doesn't rise, begin abdominal thrusts, as follows. Kneel at the victim's feet or astride the thighs (or to the side if the victim is obese or pregnant). Place the heel of your hand in the middle of the abdomen just above the navel, well below the tip of their breastbone. (If the victim is obese or pregnant, place the heel of your hand in the middle of the victim's breastbone. Do not place your hand on the ribs or on the tip of the breastbone.) Place your other hand on top of the first hand.
7. Give 6 to 10 quick thrusts compressing the victim's chest about 2 inches, pressing your hands inward and upward. Do not press to either side. Each thrust is a separate attempt to clear the victim's airway by forcing air out through the windpipe.
8. Open the victim's mouth with your thumb and index finger. If the object is visible and loose, remove it. Observe the victim's breathing. If the infant stops breathing, begin CPR.
9. If the object is not dislodged, give 2 breaths, 6 to 10 abdominal thrusts, and then check for the object. Repeat this sequence until the object is dislodged or help arrives.

8. If the victim's chest does rise, place 2 fingers on the victim's Adam's apple. Slide your fingers into the groove between the Adam's apple and the muscle on the side of their neck to feel for a pulse for 5 to 10 seconds.
9. If the victim has a pulse, give 1 breath every 5 seconds. Check the pulse after every 12 breaths.
10. Be sure the local emergency number has been called. Have someone else make the call if possible. Continue giving breaths and checking the pulse.
11. If the victim has no pulse, begin chest compressions. Maintain the head position and place the heel of your hand 2 finger-widths above the lowest notch of the victim's breastbone (where the lower edge of the ribcage meets in the middle). Place the heel of your other hand directly over the heel of the first hand. Interlock your fingers; don't let them touch the victim's chest. Lock your elbows straight. Lean your shoulders over your hands, and firmly press down about 2 inches into the victim's chest. Repeat the compressions continually. Give the compressions in a smooth, rhythmic manner, keeping your hands on the victim's chest. Don't rock back and forth - push straight down. Don't pause between compressions.
12. Give the victim continuous chest compressions. Count aloud as you pump in a regular rhythm. You should pump at a rate of about 80 to 100 times a minute. Count 1 and 2 and 3 and 4 and...15 and (breathe, breathe). <to the to the rhythm of "Staying Alive" song by the Bee Gees>.
13. Recheck the victim's pulse for 5 to 10 seconds.
14. Repeat steps 12 and 13 until the victim's pulse resumes or help arrives. If the pulse resumes, go to step 9.
15. Once pulse and respiration resume, roll the person onto his side taking care to move the body as a whole unit. This is called the recovery position, but it should not be used if you suspect there might be a neck or spinal injury. Stay by the person until help arrives.

Prevention:

Be prepared and use good judgment.

Fire Protection Policy Supplement

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.

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- 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.

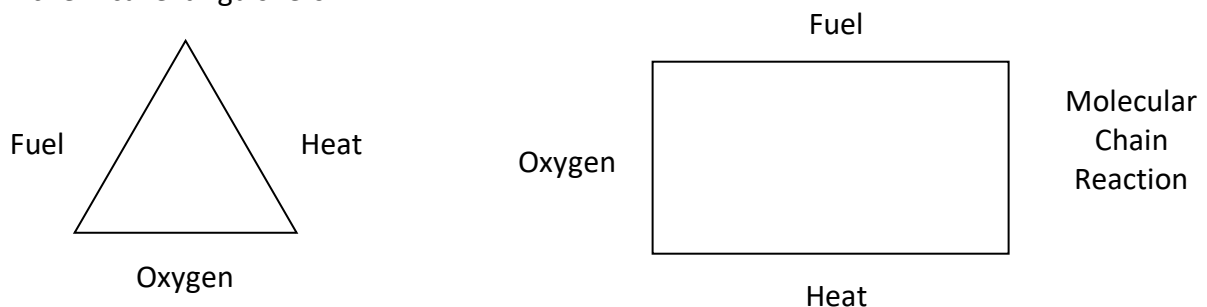
IN THE EVENT OF A FIRE:

- 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 Energy** - Can be produced by building up molecules (composition) or breaking apart (decomposition) by heat or a solution when materials 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.

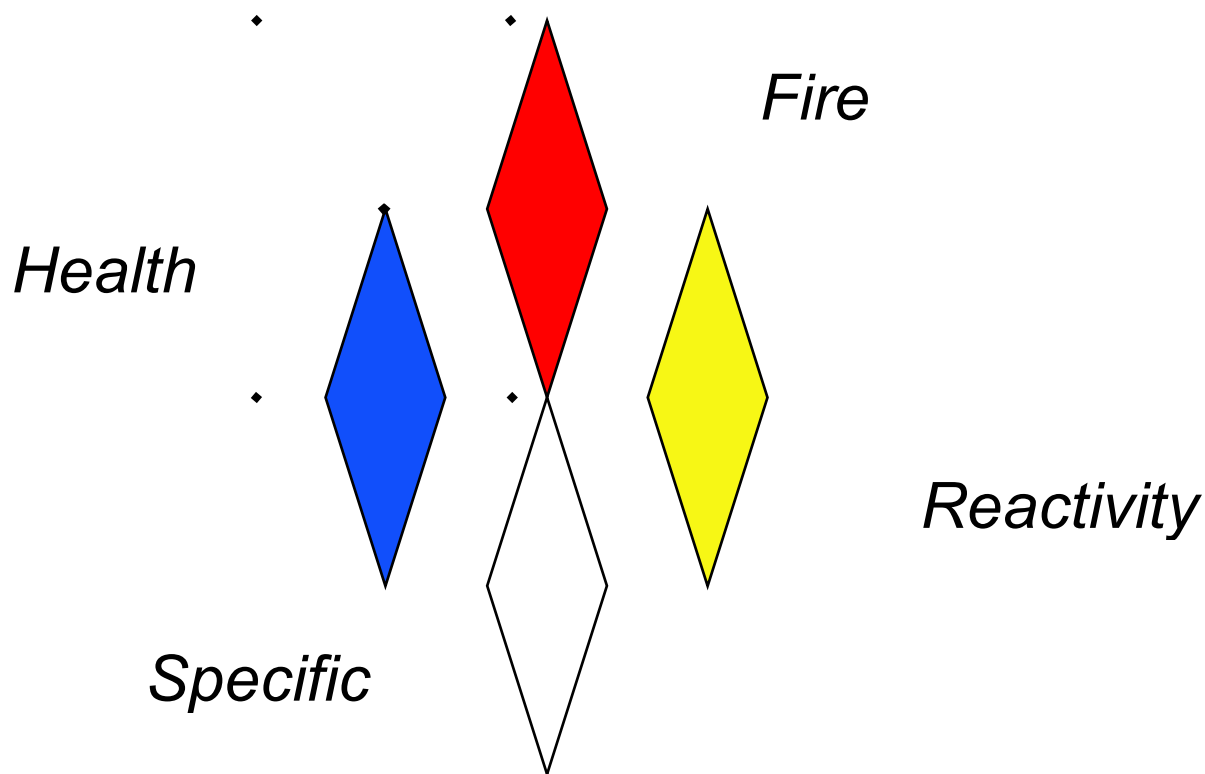
- **Oxidation** - The ability of materials to produce oxygen during a chemical reaction.
- **Spontaneous Combustion** - When oxidation is allowed to occur, enough oxygen is available, heat is produced, molecules become more energetic and combine with oxygen at an increasing rate, temperatures rise and 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)**
- Class K – **Kitchen (oils/grease)**
-


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



Scale ranges from 0 (lowest hazard) to 4 (highest hazard)

NFPA Diamond:

| 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 \equiv W |
| 1 above 200 ⁰ F | 0 Normal Material | 0 stable | Radioactive =  |
| 0 will not burn | | | |

Electrical (Qualified) Policy Supplement

Policy

Work activities involving electrical hazards shall be conducted safely.

This policy covers minimum performance standards applicable to all Evolution Maintenance 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 Evolution Maintenance 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 (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 line being guarded and are not a part of or an attachment to 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 in. |
| Over 750V, not over 2kV | 1 ft. 6 in. |
| Over 2kV, not over 15kV | 2 ft. 0 in. |
| Over 15kV, not over 37kV | 3 ft. 0 in. |
| Over 37kV, not over 87.5kV | 3 ft. 6 in. |
| Over 87.5kV, not over 121kV | 4 ft. 0 in. |
| Over 121kV, not over 140kV | 4 ft. 6 in. |

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 sledgehammer 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

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.

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 use 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.

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 transportation 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.

6.0 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

Confined Space Policy Supplement

Policy

This program is intended for “Awareness Level” purposes. Systems shall be utilized to ensure the safety of employees who are required to enter confined spaces. Only those **EVOLUTION MAINTENANCE** employees who have received specifically required training and certification on confined space entry shall be allowed to enter and/or attend a confined space. This program will be reviewed annually by the Corporate Director of Health and Safety, and revised as necessary.

This policy covers minimum performance standards applicable to all EVOLUTION MAINTENANCE 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 set forth procedures for the safe entry to confined spaces.

Scope

Applies to all **EVOLUTION MAINTENANCE** Associates work sites, i.e., **EVOLUTION MAINTENANCE** offices, client job sites, etc., involving confined space entry.

Definitions

Attendant means an individual stationed outside permitted confined spaces that monitors the authorized entrants and who performs all attendants’ assigned duties.

Authorized Entrant means an individual who is authorized to enter a confined space.

Blanking or blinding means an 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.

Confined space means a space that is large enough and so configured that an individual can enter and perform assigned work; has limited or restricted means for 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 continuous occupancy. A permit required confined space has one or more of the following characteristics:

- Contains or has a 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
- Contains any other recognized serious safety or health hazard

Confined Space Permit means a written or printed document that allows persons to enter into a permitted confined space.

Double block and bleed means the closure of a line, duct, or pipe by closing and locking or tagging two in-line valves and by opening and locking or tagging a drain or vent valve in the line between the two closed valves.

Emergency means any occurrence (including any failure of hazard control or monitoring equipment) or event internal or external to the permitted confined space that could endanger entrants.

Engulfment means the surrounding and effective capture of a person by a liquid or finely divided (flowable) solid substance that can be aspirated to cause death by filling or plugging the respiratory system or that can exert enough force on the body to cause death by strangulation, constriction, or crushing.

Entry means the action by which a person passes through an opening into a permit-required confined space. Entry includes ensuing work activities in that space and is considered to have occurred as soon as any part of the entrant's body breaks the plane of an opening into the space.

Entry supervisor means the person responsible for determining if acceptable entry conditions are present at a permitted confined space where entry is planned, for authorizing entry and overseeing entry operations, and for terminating entry as required by this section. An entry supervisor may also be acting as an attendant.

Hazardous atmosphere means an atmosphere that may expose persons to the risk of death, incapacitation, impairment of ability to self-rescue (that is, escape unaided from a permit space), injury, or acute illness.

Line breaking means the intentional opening of a pipe, line, or duct that is or has been carrying flammable, corrosive, or toxic material, an inert gas, or any fluid at a volume, pressure, or temperature capable of causing injury.

Permit-required confined space program (permit space program) means the employer's overall program for controlling, and, where appropriate, for protecting employees from, permit space hazards and for regulating employee entry into permit spaces.

Permit system means a written procedure for preparing and issuing permits for entry and for returning the permit space to service following termination of entry.

Prohibited condition means any condition in a permit space that is not allowed by the permit during the period when entry is authorized.

Oxygen deficient atmosphere means an atmosphere containing less than 19.5 percent oxygen by volume.

Oxygen enriched atmosphere means an atmosphere containing more than 23.5 percent oxygen by volume.

Rescue service means the personnel designated to rescue employees from permit spaces.

Retrieval system means the 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 permit spaces.

Testing means the process by which the hazards that may confront entrants of a permit space are identified and evaluated. Testing includes specifying the tests that are to be performed in the permit space.

Requirements

General

Employees shall be informed of identified permit required confined spaces for the work site as they are identified.

Only authorized personnel may be permitted to enter a permit required confined space.

Danger signs or other equivalent means shall be used to warn of existing confined spaces that are accessible by employees and others. The wording shall be " DANGER-PERMIT-REQUIRED CONFINED SPACE, DO NOT ENTER" or other equivalent language.

Required safety equipment shall be at the confined space work area, in working order, and instruments calibrated.

Initial Evaluation of Confined Spaces

Confined spaces shall be considered as permit required confined spaces until a competent person conducts an initial evaluation of the work site to identify permit required confined spaces. Confined spaces shall be classified as follows:

- Non Hazardous
- Hazardous due to work task
- Hazardous due to internal condition

If the work site contains permit required confined spaces, danger signs stating "DANGER - CONFINED SPACE - ENTER BY PERMIT ONLY" or equivalent shall be posted to inform employees of the existence and location of the spaces. Bilingual signs shall be posted as necessary.

Reclassification or Canceling of Permit Required Spaces

Permit required confined spaces shall be reclassified as non-permit spaces under the following circumstances:

- The space has no actual or potential atmospheric hazards and if hazards within the space are eliminated without entry into the space
- If testing and inspection during entry demonstrates that the hazards within the space have been eliminated and remain eliminated
- If a hazard returns, personnel shall evacuate the space and the space shall be reevaluated

- If new hazards are identified that are not part of the original permit, personnel shall immediately evacuate the space and the confined space shall be re-evaluated
- Cancelled permits shall be kept on file for a period of at least 12 months and reviewed to determine problems encountered.

Confined Space Entry Form

The responsible supervisor shall ensure that a Confined Space Entry Form is completed prior to the entry of any permit required confined space. Completion of this form involves the following activities:

- Assessing hazards
- Atmospheric testing
- Identification of qualified entrants
- Identification of attendant(s).
- Identification of entry supervisor
- Establishment of Rescue method and Rescue Service
- De-energizing systems
- Cleaning of confined spaces
- Types of equipment required
- Hazards that may be generated through work activities
- Communication methods
- Entrants are qualified

Confined Space Permits are valid for the work period or work shift and become void and shall be reissued when:

- There is an unplanned interruption in the work process
- The surrounding conditions change that introduce a new hazard
- Personnel leave the space to perform other work
- The work space is left unattended
- The work period (normal time a person or crew is scheduled to work during that day) ends
- When new crew assumes the work assignments of the existing work crew

Permits are not void during any single work period when crewmembers are added to the existing crew or when crewmembers are replaced on a planned rotational basis and the provisions of the permit are met including training and instructions.

Permits become void when the scope of work exceeds the definition of work defined on the permit, and when work is required to be completed that is not covered by the permit.

Confined Space Permits shall be posted at the confined space work area until the work is completed. At the conclusion of work, the permit shall be returned to the issuer (i.e. Entry Supervisor, client, etc.).

Completed confined space permits shall be kept for a minimum of 12 months and until a review of the confined space permit program is completed.

Atmospheric Testing

Atmospheric conditions of a confined space shall be tested with calibrated equipment prior to entry of personnel and as identified by the Initial Evaluation of Confined Spaces (5.2 of this section). Atmospheric testing shall be completed as indicated below and recorded on the Entry Permit:

- Oxygen content shall be tested. The acceptable range is 19.5 to 23.5 percent
- Test for combustible gas and vapors. Acceptable range is 0 to 10 percent of the Lower Flammable Limit (or Lower Explosive Limit). Record readings on the Entry Permit
- Check for toxic gases and airborne combustibles (i.e. dusts) as identified by the initial determination of confined spaces
- Entrants and/or attendants may request additional monitoring at any time

See testing equipment requirements under the Industrial Hygiene section (23) of this manual.

Pre Entry (occurring prior to entry)

Only those persons receiving specifically required training and certification on confined space entry shall be allowed to enter and/or attend a confined space. This training shall be documented at orientation. Annual refresher training shall be conducted for all applicable **EVOLUTION MAINTENANCE** personnel to include emergency rescue drills.

Persons who enter confined space, Attendant(s), and Entry Supervisor shall receive the following minimum instructions concerning the confined space:

- How to recognize symptoms of the specific potential hazards of the confined space
- The consequences of exposure to potential hazards
- When to evacuate the confined space
- Adhering to instruction of the Attendant
- Evacuating when alarms sound
- How communications will be maintained
- What to do if an exposure occurs or there is a release of a substance
- Shutting off tools during an emergency

Sources of energy or contaminants shall be controlled, such as:

- Electrical energy

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- Pressurized systems such as pipelines and vessels are isolated through double blocking, blinding, bleeding, and depressurization
- Extreme heat and extreme cold conditions

Pre-entry atmospheric testing shall be completed

The method of ventilating the confined space shall be established

The approved tools shall be identified and staged at or near the entry point of the confined space. Tools, electrical tools and lighting systems shall be approved for use in confined spaces as identified by the Initial Evaluation of confined spaces

Depending upon the Pre-Job Assessment (lighting and electrical equipment may be either low voltage (50V or less), or conventional 120V portable lamps and tools if powered by approved ground-fault circuit interrupter devices and the work is not an electrically hazardous location. Pneumatic equipment may be used instead of electrical equipment.

Required rescue procedures and rescue equipment that shall be staged at the confined space

The safe methods to enter, exit, and escape for personnel (including rescue personnel during retrieval) working in a permit-required confined space shall be developed during the job planning phase, specified on, and included, as needed, on the entry permit.

Personnel have been issued required personal protective equipment (PPE).

Ventilation of Confined Spaces

Powered ventilation shall occur before entry into permit-required confined space and continue until after the employees have left the space. Layout of ventilation equipment will be made in such a manner that the air is being sent throughout the entire confined space. Forced air ventilation shall come from a clean source and may not increase hazards.

Air hoses with diffusers may not be used to provide forced ventilation.

Air sampling shall be conducted prior to personnel entry to assure the safety of the space and periodic air sampling shall be continued thereafter in the space when forced ventilation is used.

Forced ventilation may be used to:

- To remove contaminants created by work activities such as welding
- As a method of maintaining controlling the ambient temperature of a confined space when the rise in temperature is caused by atmospheric conditions.

Ventilation shall occur only by forcing air into a confined space. If it is necessary to exhaust hazardous gases, such as those produced when welding, the air being forced into the confined space shall be increased by at least the amount that is being exhausted out of the space.

Performance of Work

The confined space attendant shall remain at the entry point of the confined space while personnel are inside any permit required confined space.

The confined space attendant shall ensure that only authorized personnel enter the confined space.

Confined space attendants shall not perform any other work activities except that they may also serve as the attending supervisor.

Confined space attendants shall only monitor a single confined space, unless entry points to subsequent confined space(s) are immediately adjacent and are under the direct control of the attendant.

If an emergency or other unplanned event takes place during the course of work the Confined Space Work Permit is void.

The Attendant and Entry Supervisor have the authority to discontinue work activities at any time.

Compressed gas cylinders other than a self-contained breathing apparatus should not be taken into a confined space.

The hoses of gas cutting and welding tools shall be inspected for leaks prior to taking them into any confined space.

Persons who enter confined spaces shall comply with the provisions of this standard and the confined space permit. This includes:

- Supervisors
- Inspectors
- Surveyors
- Observers
- Scaffold Builders
- Engineers
- Vendors
- Contractors, subcontractors, and other employers

Sources of ignition (e.g., flame, arc, or spark) shall not be permitted in any confined space until tests have ensured that the percentage of combustible/flammable gas or vapor is not more than zero (0) % of the Lower Explosive Limit (LEL).

Emergencies

Emergency Notification

It is the responsibility of the Entry Supervisor and/or the Entry Attendant to immediately notify the senior **EVOLUTION MAINTENANCE** employee on the worksite of a potential emergency by radio or cell phone. The senior **EVOLUTION MAINTENANCE** employee will assess the situation and contact emergency response personnel if applicable.

Only those individuals trained and certified in confined space entry procedures on the worksite may assist in emergency rescue operations.

Rescue / Retrieval Systems

To facilitate emergency rescue, retrieval systems or methods shall be used whenever an authorized entrant enters a confined space, unless the retrieval equipment would increase the overall risk of entry or would not contribute to the rescue of the entrant.

The entry supervisor, prior to the initial entry of personnel into a confined space, shall ensure the rescue equipment and retrieval system is functioning properly.

Retrieval systems shall meet the following requirements to the greatest extent possible.

- Each authorized entrant shall use a full body harness with a retrieval lifeline attached at the center of the entrant's back near shoulder level, or above the entrant's head or safety coveralls with built-in harness, with a retrieval lifeline attached at the near shoulder level of the entrant's back, or above the entrant's head
- Wristlets may be used in lieu of the full body harness if the entry supervisor can demonstrate that the use of a full body harness is not feasible or creates a greater hazard and that the use of wristlets is the safest and most effective alternative
- The other end of the retrieval line shall be attached to a mechanical device or fixed point outside the confined space in such a manner that rescue can begin as soon as the rescuer becomes aware that rescue is necessary. A mechanical device shall be available to retrieve personnel from vertical type confined spaces more than 5 feet deep
- The safety harness shall be of the type that permits easy rescue of personnel from the confined space during emergency conditions and may be either the harness type that suspends a person in an upright position or the wrist type rescue harness. (A hoisting device or other effective means for lifting personnel from confined spaces is preferred)

- Lifelines shall have a minimum breaking strength of 5,400 pounds

Completion of Work

When the work is completed in a confined space the following, as a minimum shall be completed:

- Tools, equipment and materials shall be removed
- The area surrounding the confined space shall be clean of materials, equipment, scraps, and debris
- The supervisor responsible for the confined space work shall inspect the work location to ensure cleanup of materials, tools, and other items is complete
- (Lockout) locks are removed only when work is completed

Illumination Policy Supplement

PURPOSE

This requirement provides that must be used at all facilities in managing illumination while at customer facilities. Where local regulations are more stringent than this requirement, those regulations supersede this requirement.

SCOPE

This requirement applies to all Customer facilities.

DEFINITIONS

Foot-candle is the amount of illumination produced by a candle from a distance of one foot. Different types of work are required to have certain levels of illumination, measured in foot-candles. OSHA's established minimum lighting requirements are listed in foot-candles (ft-c).

Lux level measures [light level intensity](#). One lux is the amount of illumination supplied by one candle on a one-meter surface from a distance of one meter.

OSHA 1910 Illumination Standards refers to a requirement subpart that covers the [examination, installation, and use of electrical equipment](#) and [exit routes and emergency planning](#).

OSHA 1915 Subpart F covers [the illumination of general working conditions in shipyards](#).

OSHA 1926 Subpart D covers [general construction area lighting standards](#).

REQUIREMENTS

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.

When in spaces with non-exposed energized parts, employees shall use supplemental illumination devices (such as flashlights, lamps, etc.) to ensure all OSHA illumination levels are met.

General construction areas require a minimum of 5 foot-candles of illumination, and plants and shops require at least 10 foot-candles.

For other types of workplaces, the minimum illumination standards are as follows:

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First-aid stations and infirmaries: 30 f-c

Warehouses, walkways, and exits: 10 ft-c

Underground shafts and tunnels: 5 ft-c

Waste areas, loading platforms, refueling areas, active storage areas: 3 ft-c

Housekeeping/Sanitary Conditions Policy Supplement

PURPOSE

This requirement provides the definitions and procedures that must be used by all facilities in defining and managing housekeeping and walking-working surfaces within Company sites. Where local regulations are more stringent than this requirement, those regulations supersede this requirement.

SCOPE

This requirement applies to all Customer facilities.

DEFINITIONS

Standard railing – A vertical barrier erected along exposed edges of a floor opening, wall opening, ramp, platform, or runway to prevent falls of persons.

Stairs, stairway – A series of steps leading from one level or floor to another, or leading to platforms, pits, boiler rooms, crossovers, or around machinery, tanks, and other equipment that are used more or less continuously or routinely by employees, or only occasionally by specific individuals.

Platform – A working space for persons, elevated above the surrounding floor or ground; such as a balcony or platform for the operation of machinery and equipment.

REQUIREMENTS

The workplace must be kept in a suitable clean and tidy state.

Aisle-ways must be kept free of hoses, cords, stored materials and other trip hazards.

Floors must be even and free of holes or other trip hazards.

Elevated surfaces (platforms, mezzanines, and such) must be provided with guard rails (standard railing).

Staircases must be safe.

Ladders and other equipment should be secured and not left leaning.

Housekeeping inspections must be conducted at each manufacturing, service and distribution facility at least monthly and documented.

Health and safety inspections must be conducted at each work site at least monthly.

Training must be provided to all employees at all work sites to maintain orderliness and housekeeping.

Working Alone Policy Supplement

There may be situations where personnel sometimes work alone. Examples include;

- staying late to complete a job that must be done before the next day's work
- completing a task where there is only room for one worker
- servicing equipment in a remote area
- cleaning up scrap and debris when work is done for the day.

A person is “working alone”, when he or she is on their own at work; when they cannot be seen or heard by another person; and when emergency assistance is not readily available.

The greatest risk in working alone is that no one is available to help a worker who may be injured, trapped, or unconscious. Even if co-workers realize that someone is missing, it may be difficult to locate an injured worker.

Planning

- Inspect the jobsite for real and potential hazards and taking whatever steps are required to safeguard workers.
- If any personal protective equipment or clothing is required in addition to hard hat and safety boots, it should be provided, along with instruction in its proper use.
- All safety and work-related procedures should be reviewed with workers to ensure that each procedure is clearly understood. The procedures should also be spelled out in the company's health and safety policy.
- In some situations like confined spaces, regulations under the Occupational Health and Safety Act prohibit entry or work without another person standing by outside the area.

Communication

- Communication is crucial in accounting for personnel working alone. A system must be established where, at regular intervals, someone checks on the worker or the worker reports to a designated person. A check at the end of the work shift must be done.
- A procedure to follow in case the worker cannot be contacted, including provisions for emergency rescue.
- Where hazard exposure is high, intervals should be kept short.
- If a site telephone is involved, it must be clearly identified, conveniently located, and working properly. The number of the individual to be contacted must be clearly posted near or on the phone.
- Cellular phones or two-way radios can also provide effective communication. Test the units on-site to ensure that reception is reliable.

Responsibilities

The supervisor shall ensure that any worker working alone is aware of real and potential hazards in the area. The worker should be trained in hazard recognition and in the procedures and equipment required to do the job safely. The supervisor must also ensure that:

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- a method of checking in with the worker has been established
- check-in intervals are clearly understood
- the designated contact person is aware of the work schedule
- any communication equipment used is in good working order
- no obstructions or interference may block phone or radio communications.

Employees who perform hazardous work

Employees who perform hazardous work alone, without routine interaction with other employees and the public, may be unable to get immediate help.

The strategy is to control the hazards associated with the work.

The following prevention strategies are essential in reducing the risks associated with this type of working alone situation:

- Safe Work Procedure – Having written safe work procedures for hazardous work is essential. They provide standard instructions to all employees to carry out the work safely.
- Equipment Safety – The employer must ensure that employees use equipment as intended and according to the manufacturer's specifications. All equipment used at a work site must be maintained in good working condition, whether or not it is being used in a "working alone" situation. High hazard equipment should have a dead-man switch to prevent continued activation of the equipment. The switch should always be in good working order.
- Equipment and Supplies – In addition to proper equipment, appropriate first aid and emergency supplies must be provided to employees who are working alone at a work site.
- Travel Plan – If employees are working alone in a remote location, the employer should establish a sign-out procedure to track their whereabouts. An "overdue employee" procedure should also be in place for locating employees who fail to report on time.

Employees Who Travel Alone

Some of the risk to employees who travel alone involves injuries from motor vehicle accidents. The risk is greater when employees cannot communicate in remote areas or are unable to summon help. Employees performing fieldwork by themselves, employees in the transportation industry and business people in transit are exposed to the risk.

The prevention strategies for this situation focus on safety on the road. The following strategies should be addressed in the overall management of the risk:

- Safe Work Procedures - Employees must have full concentration on the road when travelling alone. An employer should allow sufficient rest time for employees who are

- travelling on long trips.
- Equipment and Supplies - Well-maintained vehicles prevent exposing employees to unnecessary risk. Appropriate first aid and emergency supplies must be provided.
- Travel Plan - An employer should consider a procedure appropriate to the hazards to track the whereabouts of their employees. The travel plan submitted by the employee can be used to assess the rest time available to the employee travelling alone.

Employees at Risk of Violence because they Are Isolated

For employees who work in isolation away from routine contact with other persons, there is a risk of violent attacks by intruders. Employees in this category include custodians and security guards. Site security is therefore the most important control measure.

The following control measures should be taken by the employer to reduce the risk:

- Safe Work Procedures - The employer should have safe work procedures directing employees to check the security of the work site at the beginning and at the end of the shift. The procedures should also include how to behave when confronted with an intruder.
- Site Security - A secure facility with a proper security system is the primary defense against break-ins. A combination of remote and personal alarms and video surveillance may be used in the security system. Windows and doors should be secured with heavy duty locks and suitable barriers. Employers should consider improving the security of windows and doors.

In a working alone situation the employer must:

(1) Conduct a hazard assessment

Employers must closely examine and identify existing or potential safety hazards in the workplace. The assessment must be in writing and communicated to all affected staff. Employers must also involve affected employees in conducting the hazard assessment, and in the elimination, reduction or control of the identified hazards.

(2) Eliminate or reduce the risks

Employers must take practical steps to eliminate the hazards identified. If it is not practicable to do so, employers must implement procedures to reduce or control the hazards.

(3) Provide an effective communication system

Employers must provide an effective communication system for employees to contact other people who can respond to the employees' need. The system must be appropriate to the hazards involved, and include regular contact by the employer (or their designate) at intervals appropriate to the nature of the hazard associated with the worker's work.

(4) Ensure employees are trained and educated

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Employers must ensure their employees are trained and educated so they can perform their job safely.

Employees must be made aware of the hazards of working alone and the preventative steps that can be taken to reduce or eliminate potential risks.

These rules take into account a wide variety of situations where employees work alone. Their intent is to require employers to consider the hazards specific to their work sites and to adopt safety measures that address these hazards.

Checklist for Employees Who Perform Hazardous Work

This checklist is intended to help employers implement best practices for employees working alone at hazardous jobs without routine interaction with the public. The questions in bold reflect mandatory requirements. Other questions suggest recommended practices that are highly desirable.

| | | | |
|-----|----|-----|---|
| Yes | No | N/A | EMPLOYEE TRAINING |
| | | | Do you ensure employees are trained and competent to work alone safely? |
| | | | Are employees aware of the increased risk from carrying out the hazardous work alone? |
| Yes | No | N/A | SAFE WORK PROCEDURE |
| | | | Do you have a safe work procedure for the hazardous work? |
| | | | Did the employer develop the safe work procedure with the involvement of the affected employees? |
| | | | Is there a procedure requiring employees to sign out before a job, and to provide information on a travelling plan and an estimated time of return? |
| | | | Is there a procedure for the employee to check-in prior to and at the end of the planned activities at the site? |
| Yes | No | N/A | EQUIPMENT SAFETY |
| | | | Do you ensure equipment is in good working condition prior to being used on a work site? |
| | | | Does all equipment and machinery used by employees meet regulatory standards? |
| | | | Are equipment and machinery being used in accordance with the manufacturer's specifications? |
| | | | Is a dead-man switch used in high hazard machinery to prevent continued activation? |
| Yes | No | N/A | EQUIPMENT AND SUPPLIES |
| | | | Do you equip employees with the appropriate first aid supplies? |
| | | | Do employees carry the required first aid supplies? |
| | | | Do employees carry the necessary personal protective equipment? |
| | | | Do employees carry emergency supplies if they are to work in remote areas with inclement weather? |
| Yes | No | N/A | COMMUNICATION |
| | | | Do you have an effective means of communication for employees to contact persons capable of responding when employees need immediate assistance? |
| | | | Does the method of communication involve one or more of the following: |
| | | | Regular telephone, cell phone, or radio contact? |
| | | | Schedule check-in points with other employees? |
| | | | Others? Specify: |
| | | | Is there an "overdue employee" procedure to initiate searches for employees who fail to report? |

Checklist for Employees Who Travel Alone

This checklist is intended to help employers implement best practices for employees travelling alone while working, with no interaction with customers. The questions in bold reflect mandatory requirements. Other questions suggest recommended practices that are highly desirable.

| | | | |
|-----|----|-----|--|
| Yes | No | N/A | EMPLOYEE TRAINING |
| | | | Do you ensure employees are trained and competent to work alone safely? |
| | | | Are employees informed of the hazards associated with working alone? |
| | | | For employees who have to travel alone to remote locations, do they have some training in emergency survival? |
| Yes | No | N/A | SAFE WORK PROCEDURE |
| | | | Do you have a safe work procedure for employees travelling alone? |
| | | | Do employees have adequate rest periods between work periods when they are travelling alone? |
| Yes | No | N/A | EQUIPMENT SAFETY |
| | | | Do you ensure vehicles used by employees are in good working condition? |
| | | | Are all vehicles used by employees under regular maintenance programs? |
| Yes | No | N/A | EQUIPMENT AND SUPPLIES |
| | | | Do you provide employees with the appropriate first aid supplies? |
| | | | Do employees carry the required first aid supplies? |
| | | | Do employees carry the emergency supplies when they travel in extreme cold or inclement weather conditions? |
| Yes | No | N/A | COMMUNICATION |
| | | | Do you have an effective means of communication for employees to contact persons capable of responding when employees need immediate assistance? |
| | | | Do you have a procedure for tracking "overdue" employees that is appropriate to the hazards? |
| | | | Does the method of communication involve one or more of the following: Regular telephone, cell phone, or radio contact? |
| | | | Reporting to designated locations according to the "travel plan"? |
| | | | Others? Specify: |

Checklist for Employees at Risk of Violence because they Are isolated

This checklist is intended to help employers implement best practices for employees working in isolation away from public view. The questions in bold reflect mandatory requirements. Other questions suggest recommended practices that are highly desirable.

| Yes | No | N/A | |
|-----|----|-----|---|
| | | | EMPLOYEE TRAINING |
| | | | Do you ensure employees are trained and competent to work alone safely? |
| | | | Are employees informed of the hazards associated with working in isolation? |
| | | | Are employees trained in non-violent responses to threatening situations? |
| | | | Are employees trained in the proper use of security systems to prevent / discourage intruders? |
| | | | Are employees trained in questioning strangers about the appropriateness of their presence? |
| Yes | No | N/A | SAFE WORK PROCEDURE |
| | | | Do you have a safe work procedure to secure the work site? |
| | | | Does the safe work procedure include appropriate behaviors <u>when</u> confronted with an intruder? |
| | | | Does the safe work procedure require a check for secure work site prior to the start and at the end of the shift? |
| Yes | No | N/A | SITE SECURITY |
| | | | Do you provide a safe work site for employees working alone |
| | | | Does the site have a security system? |
| | | | Does the security system include the following: |
| | | | Remote alarm? |
| | | | Personal alarm? |
| | | | Video surveillance camera? |
| | | | Others? Specify: |
| | | | Is the alarm system regularly checked for correct operation? |
| | | | Are all doors and windows secured with appropriate barriers? |
| | | | Is public access into the work site limited? |
| | | | Are there adequate lights at the site entrance and parking areas? |
| Yes | No | N/A | COMMUNICATION |
| | | | Does the method of communication involve the following: |
| | | | Regular telephone, cell phone, or radio contact with a designated person? |
| | | | Regular security patrol? |
| | | | Alarm system to security services? |
| | | | Regular visit by co-workers |
| | | | Others? Specify: |

One-Call Prior to Digging Policy Supplement

If you need to dig at a customer's location, IT IS REQUIRED to notify the appropriate people in the Evolution Maintenance office (defined as your Zone contacts) PRIOR to any digging taking place.

The Zone contact will use the appropriate marking service to arrange for the marking of all underground utilities.

Again, this must take place PRIOR to the commencement of any digging.

Respirable Crystalline Silica Policy Supplement - Awareness

PURPOSE

The purpose of this document is to create awareness to limit silica exposure for EVOLUTION MAINTENANCE, INC., hereafter referred to as “The Company”, workers. Occupational silica exposure may be preventable through worker training, use of a silica substitute, use of engineering controls, improved work practices, and lastly, use of personal protective equipment.

Silica Awareness

According to OSHA.gov, “Crystalline silica is a common mineral found in the earth's crust. Materials like sand, stone, concrete, and mortar contain crystalline silica. It is also used to make products such as glass, pottery, ceramics, bricks, and artificial stone.

Respirable crystalline silica – very small particles at least 100 times smaller than ordinary sand you might find on beaches and playgrounds – is created when cutting, sawing, grinding, drilling, and crushing stone, rock, concrete, brick, block, and mortar. Activities such as abrasive blasting with sand; sawing brick or concrete; sanding or drilling into concrete walls; grinding mortar; manufacturing brick, concrete blocks, stone countertops, or ceramic products; and cutting or crushing stone result in worker exposures to respirable crystalline silica dust. Industrial sand used in certain operations, such as foundry work and hydraulic fracturing (fracking), is also a source of respirable crystalline silica exposure. About 2.3 million people in the U.S. are exposed to silica at work.

Workers who inhale these very small crystalline silica particles are at increased risk of developing serious silica-related diseases, including:

- Silicosis, an incurable lung disease that can lead to disability and death;
- Lung cancer;
- Chronic obstructive pulmonary disease (COPD); and
- Kidney disease.

To protect workers exposed to respirable crystalline silica, OSHA has issued two respirable crystalline silica standards” including one for construction; the construction standards are what we use at Evolution Maintenance.

This information is covered under the section Respirable Crystalline Silica Policy Supplement – Exposure Plan and in the **OSHA Small Entity Compliance Guide** (this is considered a supplemental section to the overall Evolution Maintenance Safety Policy). This guide is readily available through Evolution Maintenance’s Workplace site and it is expected that all employees will review this document and take appropriate steps to comply. Additionally, more resources related to Crystalline silica safety can also be found in the safety section of the Evolution Maintenance’s Workplace site. Please refer to these best practices and tips to ensure compliance with the policy.

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The vast majority, if not all, of the tasks we perform at Evolution Maintenance, Inc. (pouring concrete for posts, cutting tile, some saw cutting for plumbing) are usually short time period events and should be safely performed utilizing the standards outlined in this document including things such as:

- Wearing respirators that comply with requirements of the silica standard and with OSHA's Respiratory Protection standard (29 CFR 1910.134)
- Using tools equipped with integrated water delivery system that supplies water to cutting surface
- Using HEPA-filtered vacuum when cleaning holes and other areas
- When appropriate, perform work such as tile cutting outside (still wearing the respirator and using the water supplied cutting surface). This will also help minimize any dust/debris inside the customer's facility.

Training

Training is required prior to using silica-containing materials or working in an environment known to contain airborne concentrations of Silica. Training will include information about adverse health effects of silica, safe work practices, chemical hazards and use and care of personal protective equipment. Periodic refresher training is also required to ensure that personnel retain knowledge of the dangers of Silica and how to protect themselves from such dangers.

Engineering Controls

Engineering controls are interventions that can be used to eliminate or more safely work around hazards. The Company will use engineering controls by removing or minimizing hazardous conditions such as respirable dust. To control silica exposures, there are wet methods that use water sprays to control dust and dry methods such as ventilation controls that use vacuums and high efficiency particulate air (HEPA) filters. For blasting operations, The Company will use an alternate blasting media if possible. Other types of engineering controls will include containment methods such as blast cleaning machines & cabinets, blasting rooms, or portable equipment.

Personal Protective Equipment

Personal protective equipment such as gloves, coveralls and eye protection should be used to control silica exposures. Where respiratory protection is required, The Company will provide each employee an appropriate respirator that complies with the requirements of the company's Respiratory Protection Program. (Respirators must be selected based upon measured exposure levels and the assigned protection factor of respirators.

Respirable Crystalline Silica Policy Supplement – Exposure Plan

PURPOSE

This Respirable Crystalline Silica Program was developed to prevent worker exposure to hazardous levels of Respirable Crystalline Silica that could result through construction activities or nearby construction activities occurring on worksites pertaining to the service provided by EVOLUTION MAINTENANCE, INC.; hereafter referred to as “The Company”. 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 construction 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 workers from experiencing the effects of occupational illnesses related to Respirable Crystalline Silica exposure.

SCOPE

This Respirable Crystalline Silica Program applies to all workers 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 worker exposure will remain below 25 micrograms of Respirable Crystalline Silica per cubic meter of air ($25 \mu\text{g}/\text{m}^3$) as an 8-hour time-weighted average (TWA) under any foreseeable conditions.

RESPONSIBILITIES

The Company firmly believes protecting the health and safety of our workers 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.

Zone Facility Manager:

- Conduct job site assessments for Silica containing materials and perform worker Respirable Crystalline Silica hazard assessments to determine if a worker's exposure will be above 25 µg/m³ as an 8-hour TWA under any foreseeable conditions
- Select and implement into the project's Exposure Control Plan (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 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 workers 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 workers.
- 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.

On-site Project Manager:

- Ensure all applicable elements of this Respirable Crystalline Silica Program are implemented on the project including the selection of a Competent Person.
- Assist the Safety Department in conduct job site assessments for Silica containing materials and perform worker Respirable Crystalline Silica hazard assessments 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 ECP, exposure monitoring, Hazard Communication training, medical surveillance, housekeeping, and others.
- Ensure that workers 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 workers are properly trained on the applicable contents of this program, the project specific ECP, and the applicable OSHA Standards (such as Hazard Communication). Ensure workers are provided appropriate PPE when conducting such work.
- Competent Person and/or Site Manager (Superintendent, Foreman, etc.)
- 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 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 worker Respirable Crystalline Silica hazard assessments to determine if an ECP, exposure monitoring, and medical surveillance is necessary.

All Technicians:

- 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 Executive Team.

Action Level -a concentration of airborne Respirable Crystalline Silica of $25 \mu\text{g}/\text{m}^3$, calculated as an 8-hour TWA.

Competent Person -an individual who can identify existing and foreseeable Respirable Crystalline Silica hazards in the workplace and who has authorization to take prompt corrective measures to eliminate or minimize them.

Worker Exposure - the exposure to airborne Respirable Crystalline Silica that would occur if the worker were not using a respirator.

High-Efficiency Particulate Air (HEPA) Filter -a filter that is at least 99.97 percent efficient in removing monodispersed particles of 0.3 micrometers in diameter.

Objective Data -information, such as air monitoring data from industry-wide surveys or calculations based on the composition of a substance, demonstrating worker 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) - the employer shall ensure that no worker is exposed to an airborne concentration of Respirable Crystalline Silica in excess of $50 \mu\text{g}/\text{m}^3$, calculated as an 8-hour TWA.

Physician or Other Licensed Health Care Professional (PLHCP) - 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 the health care

services required by the Medical Surveillance Section of the OSHA Respirable Crystalline Silica Standard.

Respirable Crystalline Silica - 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 - American Board-Certified Specialist in Pulmonary Disease or an American Board-Certified Specialist in Occupational Medicine.

PROCEDURES

Specified Exposure Control Methods

When possible and applicable, The Company will conduct activities with potential Silica exposure to be consistent with OSHA's Construction Standard Table 1. Supervisors will ensure each worker 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 The Company has assessed and limited the exposure of the worker to Respirable Crystalline Silica in accordance with the Alternative Exposure Control Methods Section of this program).

The task(s) being performed by The Company identified on OSHA's Construction Standard Table 1 is/are: Select any/all 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 | <ul style="list-style-type: none"> 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 | <ul style="list-style-type: none"> Use saw equipped with integrated water delivery system that | None | N95 (or Greater Efficiency) Filtering |

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| Construction Task or Equipment Operation | | Engineering and Work Practice Control Methods | Required Respiratory Protection | |
|--|--|--|--|--|
| | | | ≤ 4 hours/shift | >4 hours/shift |
| | diameter) when used outdoors | <p>continuously feeds water to the blade.</p> <ul style="list-style-type: none"> Operate and maintain tool in accordance with manufacturer's instructions to minimize dust emissions. | | Facepiece or Half Mask |
| 2b | Handheld power saws (any blade diameter) when used indoors or in an enclosed area | <ul style="list-style-type: none"> 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 | <ul style="list-style-type: none"> 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 | <ul style="list-style-type: none"> 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 | <ul style="list-style-type: none"> 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 |

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| Construction Task or Equipment Operation | | Engineering and Work Practice Control Methods | Required Respiratory Protection | |
|--|---|---|--|--|
| | | | ≤ 4 hours/shift | >4 hours/shift |
| 5 | Drivable saws for tasks performed outdoors only | <ul style="list-style-type: none"> • 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 | <ul style="list-style-type: none"> • 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) | <ul style="list-style-type: none"> • Use drill equipped with commercially available shroud or cowl 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 | <ul style="list-style-type: none"> • 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 | <ul style="list-style-type: none"> • 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 |

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| Construction Task or Equipment Operation | | Engineering and Work Practice Control Methods | Required Respiratory Protection | |
|--|--|--|--|--|
| | | | ≤ 4 hours/shift | >4 hours/shift |
| 9b | Vehicle-mounted drilling rigs for rock and concrete | <ul style="list-style-type: none"> 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 | <ul style="list-style-type: none"> 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 | <ul style="list-style-type: none"> 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 chipping tools when used outdoors | <ul style="list-style-type: none"> 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. | None | N95 (or Greater Efficiency) Filtering Facepiece or Half Mask |
| 10d | Jackhammers and handheld powered chipping tools when used indoors or in an enclosed area | <ul style="list-style-type: none"> 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) | <ul style="list-style-type: none"> Use grinder equipped with commercially available shroud and dust collection system. Operate and maintain tool in accordance with manufacturer's | N95 (or Greater Efficiency) Filtering Facepiece or Half Mask | Powered Air-Purifying Respirator (PAPR) with P100 Filters |

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| Construction Task or Equipment Operation | | Engineering and Work Practice Control Methods | Required Respiratory Protection | |
|--|---|--|---------------------------------|---|
| | | | ≤ 4 hours/shift | >4 hours/shift |
| | | <p>instructions to minimize dust emissions.</p> <ul style="list-style-type: none"> 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. | | |
| 12a | Handheld grinders for uses other than mortar removal for tasks performed outdoors only | <ul style="list-style-type: none"> 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 | <ul style="list-style-type: none"> 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 | <ul style="list-style-type: none"> 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- | None | N95 (or Greater Efficiency) Filtering Facepiece or Half Mask |

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| Construction Task or Equipment Operation | | Engineering and Work Practice Control Methods | Required Respiratory Protection | |
|--|--|--|---------------------------------|----------------|
| | | | ≤ 4 hours/shift | >4 hours/shift |
| | | separator or filter-cleaning mechanism. | | |
| 13a | Walk-behind milling machines and floor grinders | <ul style="list-style-type: none"> • 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 | <ul style="list-style-type: none"> • 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) | <ul style="list-style-type: none"> • 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 | <ul style="list-style-type: none"> • 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) | <ul style="list-style-type: none"> • Use machine equipped with exhaust ventilation on drum enclosure and | None | None |

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| Construction Task or Equipment Operation | | Engineering and Work Practice Control Methods | Required Respiratory Protection | |
|--|--|--|---------------------------------|----------------|
| | | | ≤ 4 hours/shift | >4 hours/shift |
| | for cuts of four inches in depth or less on any substrate | supplemental water sprays designed to suppress dust. <ul style="list-style-type: none"> • Operate and maintain machine to minimize dust emissions. | | |
| 15c | Large drivable milling machines (half-lane and larger) for cuts of four inches in depth or less on any substrate | <ul style="list-style-type: none"> • 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 | <ul style="list-style-type: none"> • 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 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 | <ul style="list-style-type: none"> • Operate equipment from within an enclosed cab. | None | None |
| 17b | Heavy equipment and utility vehicles used to abrade or fracture silica-containing materials (e.g., hoe-ramming, rock ripping) or used during demolition | <ul style="list-style-type: none"> • When workers outside of the cab are engaged in the task, apply water and/or dust suppressants as necessary to minimize dust emissions. | None | None |

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| Construction Task or Equipment Operation | | Engineering and Work Practice Control Methods | Required Respiratory Protection | |
|--|--|--|---------------------------------|----------------|
| | | | ≤ 4 hours/shift | >4 hours/shift |
| | activities involving silica-containing materials | | | |
| 18a | Heavy equipment and utility vehicles for tasks such as grading and excavating but not including demolishing, abrading, or fracturing silica-containing materials | <ul style="list-style-type: none"> 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 | <ul style="list-style-type: none"> When the equipment operator is the only worker engaged in the task, operate equipment from within an enclosed cab. | None | None |

When implementing the control measures specified in Table 1, The Company 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)
- Has heating and cooling capabilities
- Where a worker performs more than one task included on OSHA's Construction Standard Table 1 during 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 The Company cannot not fully and properly implement the engineering controls, work practices, and respiratory protection described in Table 1.

First, The Company will assess the exposure of each worker 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 – The Company will assess the 8-hour TWA exposure for each worker based on any combination of air monitoring data or objective data sufficient to accurately characterize workers exposures to Respirable Crystalline Silica.
- **Scheduled Monitoring Option:**
 - The Company will perform initial monitoring to assess the 8-hour TWA exposure for each worker based on one or more personal breathing zone air samples that reflect the exposures of workers on each shift, for each job classification, and in each work area. Where several workers perform the same tasks on the same shift and in the same work area, The Company will plan to monitor a representative fraction of these workers. When using representative monitoring, The Company will sample the worker(s) who are expected to have the highest exposure to Respirable Crystalline Silica.
 - If initial monitoring indicates that worker exposures are below the Action Level, The Company will assess discontinuance of monitoring for those workers whose exposures are represented by such monitoring.
 - Where the most recent exposure monitoring indicates that worker exposures are at or above the Action Level but at or below the PEL, The Company will repeat such monitoring within six months of the most recent monitoring.

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- Where the most recent exposure monitoring indicates that worker exposures are above the PEL, The Company will repeat such monitoring within three months of the most recent monitoring.
- Where the most recent (non-initial) exposure monitoring indicates that worker exposures are below the Action Level, The Company 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 The Company will assess discontinuance of monitoring for those workers whose exposures are represented by such monitoring, except when a reassessment is required. The Company 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 The Company has any reason to believe that new or additional exposures at or above the Action Level have occurred.

The Company 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 ANSI/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, The Company will individually notify each affected worker in writing of the results of that assessment or post the results in an appropriate location accessible to all affected workers.

Whenever an exposure assessment indicates that worker exposure is above the PEL, The Company will describe in the written notification the corrective action being taken to reduce worker exposure to or below the PEL.

Where air monitoring is performed, The Company will provide affected workers or their designated representatives an opportunity to observe any monitoring of worker 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, The Company 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, The Company will determine its method of compliance based on the monitoring data and the hierarchy of controls. The Company will use engineering and work practice controls to reduce and maintain worker exposure to Respirable Crystalline Silica to or below the PEL, unless The Company can demonstrate that such controls are not feasible. Wherever such feasible engineering and work practice controls are not sufficient to reduce worker exposure to or below the PEL, The Company will nonetheless use them to reduce worker exposure to the lowest feasible level and shall supplement them with the use of respiratory protection.

In addition to the requirements of this program, The Company 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

The Company 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:

Respiratory Protection

Where respiratory protection is required by this program, The Company will provide each worker 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
- 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

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

The Company does not allow compressed air to be used to clean clothing or surfaces where such activity could contribute to worker 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
- No alternative method is feasible
- Written Exposure Control Plan

When worker exposure on a construction project is expected to be at or above the Action Level, a Written 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 worker exposure to Respirable Crystalline Silica for each task
- A description of the housekeeping measures used to limit worker exposure to Respirable Crystalline Silica
- A description of the procedures used to restrict access to work areas, when necessary, to minimize the number of workers 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 worker covered by this program and/or ECP, their designated representatives, and OSHA.

Medical Surveillance

Medical surveillance will be made available for each worker 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 worker at a reasonable time and place.

The Company will make available an initial (baseline) medical examination within 30 days after initial assignment, unless the worker 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
- Any other tests deemed appropriate by the PLHCP

The Company 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.

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

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The Company will ensure that the PLHCP explains to the worker the results of the medical examination and provides each worker 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 worker 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 worker's use of respirators
- Any recommended limitations on the worker's exposure to Respirable Crystalline Silica
- A statement that the worker 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

The Company 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 worker's privacy:

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

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

- Any recommended limitations on the worker's exposure to Respirable Crystalline Silica
- A statement that the worker 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 a worker should be examined by a Specialist, The Company will make available a medical examination by a Specialist within 30 days after receiving the PLHCP's written opinion. The Company will ensure that the examining Specialist is provided with all the information that the employer is obligated to provide to the PLHCP.

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The Company will ensure that the Specialist explains to the worker the results of the medical examination and provides each worker 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 worker 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 worker's use of respirators
- Any recommended limitations on the worker's exposure to respirable crystalline Silica

In addition, The Company 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 worker's use of respirators
- If the worker provides written authorization, the written opinion shall also contain any recommended limitations on the worker's exposure to Respirable Crystalline Silica

Hazard Communication

The Company 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).

The Company will ensure that each worker has access to labels on containers of Crystalline Silica and those containers respective Safety Data Sheets (SDS's).

All workers 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.

The Company will ensure that each worker 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

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- Specific measures The Company has implemented to protect workers 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 The Company
- The purpose and a description of the company's Medical Surveillance Program

The Company will make a copy of the OSHA Respirable Crystalline Silica Construction Standard readily available without cost to any worker who requests it. As a reminder, this is available on Workplace.

Recordkeeping

The Company will make and maintain an accurate record of all exposure measurements taken to assess worker 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 workers monitored
- Name, social security number, and job classification of all workers represented by the monitoring, indicating which workers were monitored

The Company 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

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- A description of the process, task, or activity on which the objective data were based
- Other data relevant to the process, task, activity, material, or exposures on which the objective data were based

The Company 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.

The Company will make and maintain an accurate record for each worker enrolled in the Medical Surveillance portion of this program. The record shall include the following information about the worker:

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

The Company 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 a worker works for an employer for less than one year, the employer does not have to keep the medical records after employment ends if the employer gives those records to the worker.

PROGRAM EVALUATION

This program will be reviewed and evaluated on an annual basis by the appropriate internal parties 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.

Stop Work Authority Policy Supplement

PURPOSE

The purpose of this policy is to ensure that all workers are given the responsibility and authority to Stop Work when they believe that a situation exists that places them, coworker(s), contractors, or the public at risk or in danger pertaining to the service provided by EVOLUTION MAINTENANCE, INC.; hereafter referred to as “The Company”. A worker’s responsibility and authority to Stop Work also includes situations, that if allowed to continue, could adversely affect the safe operation, or cause serious damage to a facility or equipment, or adversely affect the environment.

SCOPE

This policy applies to all The Company locations, work sites, and areas. It is applicable to all The Company workers working at these locations

RESPONSIBILITIES

All workers have the right and obligation to stop any job or task when there are questions or concerns regarding the control of hazards or unsafe acts.

Management establishes a culture that promotes SWA and supports use of SWA without potential for retribution, supervisors, and managers honor SWA requests and resolve before resuming operations, HSE provides training, support, documentation, and monitors compliance of SWA program, workers and contractors initiate stop work and support stop work initiated by others.

PROCEDURES

A Stop Work intervention should be initiated for conditions or behaviors that could reasonably be expected to pose a risk or danger to worker(s), safe operation of a facility, serious damage to equipment or adversely affect the environment. Situations that warrant a Stop Work intervention may include, but are not limited to the following:

- Unsafe conditions
- Change in conditions
- Changes to scope of work or work plan
- Equipment used improperly
- Lack of knowledge, understanding or information
- Clarify work instructions
- Propose additional controls

Any Stop Work issue(s) requiring corrective action(s) to resolve the issue(s), shall be documented on a Stop Work Authority Form (Attachment A)

Steps of Stop Work Authority

1. Stop - When a worker(s) perceives conditions or behaviors that pose imminent danger, they must immediately initiate a stop work intervention.
 - i. Workers are protected from retribution or reprimand for exercising SWA. Any form of retribution or reprimand will not be tolerated against workers who exercise SWA.
2. Notify - Notify affected workers and supervision (Zone Facility Manager) of the stop work action.
3. Investigate - Affected workers will discuss the situation and come to an agreement on the stop work action.
 - i. No work can resume once SWA is exercised until all issues and concerns have been addressed.
4. Correct – Take immediate or as soon as possible actions to rectify the known unsafe act or condition
5. Corrective actions - Will be made according to the corrections agreed upon in the investigation to prevent a recurrence of the unsafe act or condition.
6. Resume - All affected workers will be notified of what corrective actions were implemented and work will resume only when it is safe to do so.

Documentation

All SWA when exercised must be documented for lessons learned and corrective actions.

All SWA occurrences shall be documented to evaluate effectiveness of the program and identify areas for improvement.

Management must review SWA reports to measure participation, establish the quality of SWA interventions, and corrective actions, establish trends, discover opportunities for improvement, and establish lessons learned.

The Company places a high importance of follow-up after a Stop Work Intervention has been initialed and closed. It is the desired outcome of any Stop Work Intervention that the identified safety concern(s) have been addressed to the satisfaction of all involved workers prior to the resumption of work. Most issues can be adequately resolved in a timely manner at the job site, occasionally additional investigation and corrective actions may be required to identify, address and correct root causes.

Training

All workers are trained on SWA prior to their initial assignment. The training be documented and include the worker(s) name(s) and dates of training.

Attachment A
STOP WORK INTERVENTION FORM

| Section 1: Stop Work Issuance | | | |
|--|--|-------------|--|
| Location of operation | | Date & Time | |
| Supervisor | | Phone | |
| Person initiating stop work | | | |
| Person performing work | | | |
| Work operation or condition (include names of individuals performing work) | | | |
| | | | |
| Hazard (as stated by person initiating stop work) | | | |
| | | | |

| Section 2: Date / Time Informed | | | |
|---------------------------------|--|-----------------------------|--|
| Supervisor | | Safety Manager | |
| Area Manager | | Client Safety (If required) | |

| Section 3: Follow-up Action (Be specific – what by, who by, when by to correct hazard) |
|--|
| |

| Section 4: Restart Concurrence | | | |
|--------------------------------|--|------|--|
| Supervisor | | Date | |
| Area Manager | | Date | |
| Safety Manager | | Date | |