



# **HILL COUNTRY STEEL, LP HEALTH & SAFETY MANUAL**

**Hill Country Steel, LP  
13638 I.H. 10 East # 2  
Converse, TX 78109  
(210) 667-9737**

**Revision Date:** January 2024

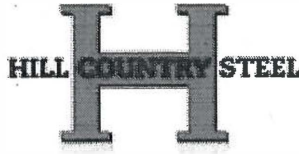
# Hill Country Steel, LP Health & Safety Manual

## Table of Contents

Section 1	Management Policy Statement	1
Section 2	Duties and Responsibilities	2
Section 3	Safety Committee	4
Section 4	Safety and Health Training	5
Section 5	Communication	6
Section 6	Incident and Accident Investigation	7
Section 7	Injury and Illness Recordkeeping	8
Section 8	Code of Safe Work Practices	10
Section 9	Emergency Action Plan	15
Section 10	Hazard Communication	19
Section 11	Hazard Assessment and Identification	26
Section 12	First Aid, CPR and Medical Emergency	30
Section 13	Heat and Cold Illness Prevention	35
Section 14	Fire Extinguishers	40
Section 15	Bloodborne Pathogen	44
Section 16	Ergonomics	49
Section 17	Hearing Protection	52
Section 18	Driving and Fleet Safety Policy	55
Section 19	Lifting Safety Program	60
Section 20	Personal Protective Equipment (PPE)	65
Section 21	Hand and Portable Power Tools	70
Section 22	Machine Guarding	76
Section 23	Electrical Safety	80
Section 24	Lock-Out/Tag-Out (LOTO)	87
Section 25	Ladders Safety Program	91
Section 26	Forklift Safety Program	97
Section 27	Aerial Lifts	103
Section 28	Scaffold Safety Program	109
Section 29	Fall Protection	115
Section 30	Confined Space	119
Section 31	Respirator Program	128
Section 32	Welding/Cutting/Hotwork	137
Section 33	Slings and Rigging	151
Section 34	Steel Erection General Requirements	162
Section 35	OSHA Inspections	168
Section 36	Program Evaluation and Recordkeeping	171
Section 37	Appendices/Forms	172

## **Appendices/Forms**

Disciplinary Procedures	173
Violation of Safe Work Practices	175
Incident/Accident Investigation Forms	176
Hazard Assessment & Correction Record	185
Safety Meeting – Toolbox Talk – Sign-In Sheet	186
Employee Safety Contact/Counseling Report	189
New Employee Safety Orientation Form	190
Receipt of Code of Safe Practices and Employee Safety Handbook	191
Receipt of Company Vehicle Policy	192
Safety Committee Meeting Minutes	193
Vehicle Inspection Checklist	194
Facility Inspection Checklist	195
Aerial Lift and Elevated Platform Safety Evaluation	197
Equipment Inspection Form	198
Confined Space Entry Work Safety Assessment	199
Pre-Entry Checklist	200
Confined Space Entry Permit	201
Scaffolding Safety Assessment Form	203
OSHA Reporting Logs	204



## Section 1 – Safety Program Management Policy Statement

**To:** All HCS Employees  
**From:** Todd Whittaker  
**Subject:** Everything Begins with Safety

We believe in the **ZERO ACCIDENT** philosophy and that every accident can be prevented. To make this possible requires every employee to take responsibility and ownership not only for their own safety, but for the safety of their co-workers and fellow employees. Proper planning, resources and follow-through can help us attain our safety goals.

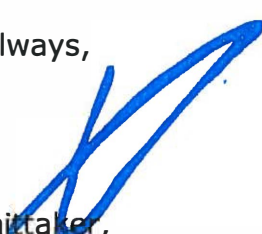
To assist and guide each employee in taking this ownership, we are developing a world class safety program. The program includes this new HCS Safety Manual as well as many safety training opportunities from weekly toolbox talks, classroom training, monthly safety meetings, safety committee meetings, safety inspections, and other activities designed to help educate and train our employees in hazard awareness and prevention of injuries in the workplace. We will continue to refine and improve our safety program and seek your ideas and input in our pursuit of **ZERO ACCIDENTS**.

If you identify an unsafe condition or you feel unsafe, use **STOP WORK AUTHORITY!** Contact your supervisor and make sure the issue is corrected or abated before continuing work. Every HCS employee has this right to stop work and will not be subject to retaliation or adverse personnel action of any kind for reporting a safety concern or issue that the employee believes in good faith may violate federal and state law or HCS safety policy or that could cause injury or harm to you or someone else.

Again, our safety culture is reflective of more than safety. It is a direct reflection of our level of commitment to excellence across all areas of our business. I believe that if one does not take every precaution to protect his or her own health and that of his or her co-workers, he or she will not excel in delivering superior value and excellence to our customers. Most importantly we want all our employees to go home at the end of the work day safe and free of injuries.

Finally, accidents cause unnecessary suffering and pain. We value and care about each of you as individuals and expect that you will work with us to achieve **ZERO ACCIDENTS**.

Safety Always,



Todd Whittaker,  
President/Chief Executive Officer  
Hill Country Steel, LP  
(210) 667-9737  
toddw@hillcountrysteel.com



## **Section 2 – Duties and Responsibilities**

### **Purpose**

A successful Health and Safety Program can only be achieved and maintained when there is active interest, participation, and accountability at all levels of the organization. To ensure this, HCS delegates the following safety duties to all management personnel. In some cases, employees will need to perform safety duties outside their regular responsibilities to prevent accidents.

### **President/General Manager/Plant Manager**

- Ensure that safety is adequately budgeted for the department, job, etc.
- Communicate safe work practices regularly within the department.
- Attend departmental and company-wide safety meetings.
- Formally recognize outstanding safety performance by any/all personnel.
- Assist the Supervisor or any other personnel with the safety process as needed or as requested. This can include formal worksite periodic inspections.
- Review on a regular or periodic basis incident reports, inspection report data, etc. so that these indicators of potential system deficiencies can be reviewed or further assessed the root causes and considerations for improvement can be assessed.
- Uphold and enforce all known safe work practices.
- Be represented in the periodic (at least annual) audit of this safety program.
- Ensure new-hire orientation is given to new employees.
- Ensure employees are given training that includes safe work practices on equipment, tools, machines, processes, etc.
- Verify that all incidents are investigated and that immediate corrective action is taken to prevent recurrence.
- Ensure safety meetings are held regularly and require attendance by all workers.
- Be represented in the annual audit of this safety program.

### **Supervisors/Foremen**

- Personally conduct or designate qualified personnel to conduct regular safety inspections of the workplace.
- Conduct frequent daily work discussions before the start of work that include safe work practices.
- Uphold and enforce safe work practices. This includes influencing safe behavior by positive reinforcement such as recognition of worker's safe work performance, and/or monetary or gift awards for safe behavior. Enforcement action can also influence safe behavior when applied towards workers who blatantly perform unsafe acts, or who continually perform in an unsafe manner.
- Be represented in the annual audit of this safety program.

### **All Employees**

- Are to follow safe work practices, and if they are unsure of what is the correct/safe way to perform a task or a job, they are to ask their foreman, supervisor, or manager.
- Must immediately report all unsafe equipment or tools to their foreman, supervisor, or manager. This includes reporting unsafe behavior of other workers if these workers are approached and remain unwilling to correct their unsafe actions or conditions.
- Are to uphold the safe work practices HCS has established.

- If injured on the job, or become ill, immediately inform their supervisor, foreman, or the Plant Manager.
- Be represented in the annual audit of this safety program.

### **Worksite Analysis**

- All work areas, departments, and jobs need to be inspected regularly to ensure safe work practices and safe and healthy conditions. For the most part, these inspections are to be conducted by the Supervisor or his/her qualified and designated worker. Each inspection may not be required to be written although regular written completed inspections will be expected. All inspection data needs to be compiled and reviewed on a periodic or regular basis.
- This includes the purchase of new equipment or tools, or the re-working or retrofitting of workstations or equipment to ensure that safety and health are considered.
- This can include the assessment of a workstation or process that may need to be fitted to the worker ergonomically.
- If approached by workers who appear to have a true concern regarding a safety or health issue, supervisors or managers need to act accordingly and give attention to the matter.
- All incidents, including property damage, equipment damage, incidents involving injury or illnesses, and near-miss type incidents need to be investigated. In most cases, the department, job foreman or supervisor will complete this investigation. Managers will be involved as necessary or when requested.
- Incidents that involve injury and illnesses will be evaluated and analyzed for trends, common/root causes, and patterns, and for changes that may need to occur in the system to prevent recurrence.

### **Hazard Prevention and Control**

- If feasible, engineering controls will be used first, rather than immediately providing personal protection equipment (PPE).
- Safe work practices will be developed, and employees will be trained in using these safe work practices to avoid injury and illnesses. This may include the implementation of task or job hazard analyses (JHA). Any established JHAs need to be included in at least annual review for accuracy and need to be included as part of any incident investigation.
- PPE will be provided as necessary and its use enforced by Supervisors and Managers.
- If feasible, administrative controls, such as reducing the duration of exposure, can be implemented.
- Equipment, tools, machines, trucks, vehicles, and structures/facilities, etc., need to be maintained in good working order by a continued preventative maintenance process.
- All workers will be made aware of workplace emergency procedures. Training on this process will begin at orientation. Drills will be conducted periodically to assist in making all workers aware of the procedures in the event of an emergency such as fire or explosion.
- HCS will establish a process to identify, evaluate and control potential safety and health risks associated with outside personnel (i.e., contractors, vendors, manufacturer/machine equipment representatives, etc.) who work for or at HCS. There will be a coordinated effort by HCS to assist in ensuring safe work performance of outside personnel especially of high-risk type work that can be related to high energy exposure, falls, confined spaces or other work deemed necessary by this organization's management and or safety representation.



## **Section 3 – Safety Committee**

### **Purpose**

The purpose of the safety committee is to promote workplace safety and health by increasing the communication, education, and involvement of HCS personnel. The Safety Program Administrator holds permanent membership in the safety committee to ensure that responsibility is delegated appropriately.

### **Safety Committee Organization**

- A safety committee is established as a management tool to recommend improvements to workplace safety programs and to identify corrective measures needed to eliminate or control recognized safety and health hazards.
- The number of safety committee employer representatives should not exceed employee representatives.

### **Responsibilities**

1. The safety committee will be responsible for assisting management in communicating procedures for evaluating the effectiveness of control measures used to protect employees from safety and health hazards in the workplace.
2. The safety committee will be responsible for assisting management in reviewing and updating workplace safety rules based on accident investigation findings, any inspection findings, and employee reports of unsafe conditions or work practices; and accepting and addressing anonymous complaints and suggestions from employees.
3. The safety committee will be responsible for assisting management in updating the workplace safety program by evaluating employee injury and accident records, identifying trends and patterns, and formulating corrective measures to prevent a recurrence.
4. The safety committee will be responsible for assisting management in evaluating employee accident and illness prevention programs and promoting safety and health awareness and co-worker participation through continuous improvements to the workplace safety program.
5. Safety committee members will participate in safety training and be responsible for assisting management in monitoring workplace safety education and training to ensure that it is in place, that it is effective, and that it is documented.
6. Management will provide written responses to the safety committee written recommendations.

### **Meetings**

1. Safety committee meetings are to be held monthly and more often if needed, and each committee member will be compensated at his or her hourly wage when engaged in safety committee activities.
2. Management will post the minutes of each meeting in a conspicuous place, and the minutes will be available to all employees.
3. All safety committee records will be maintained for not less than three calendar years.



## **Section 4 – Safety and Health Training**

### **Purpose**

To reach zero accidents, employees must be trained on how to work safely. Employees must be trained in the hazards that they face during their work. New employees must be trained before starting work at HCS.

### **Orientation Training**

Workplace safety and health orientation begin on the first day of initial employment or job transfer. Each employee should have access to a copy of the written safety program, through his or her supervisor, for review and future reference, and will be given a personal copy of any safe work practices, policies, and procedures about their job. Supervisors should question employees and should answer employees' questions to ensure knowledge and understanding of safe work practices, policies, and job-specific procedures. Supervisors are responsible to inform all employees that compliance with the safe work practices is required. Any temporary labor employees will also be provided some form of orientation as appropriate so that they are aware of HCS's safety policies and applicable procedures.

### **Job-Specific Training**

1. Managers, supervisors, foremen and lead workers should receive basic safety and health training as it relates to their positions
2. Supervisors will initially train employees on how to perform assigned job tasks safely.
3. Supervisors will carefully review with each employee any specific safe work practices, policies, and applicable procedures, this can include any established safety rules, safe work practices and/or job hazard analysis.
4. Supervisors will observe employees performing the work. If necessary, the supervisor will provide a demonstration using safe work practices, or remedial instruction to correct training deficiencies before an employee is permitted to do the work without supervision.
5. All employees will receive safe operating instructions on seldom used or new equipment before using the equipment.
6. Supervisors will review safe work practices with employees before permitting the performance of new, non-routine, or specialized procedures.

### **Recurring Training**

All employees will be retrained periodically on safe work practices, policies, and procedures, and when changes are made to the written health and safety program.

If necessary, individual employees will be retrained after the occurrence of a work-related injury caused by an unsafe act or work practice, or when a supervisor observes employees displaying unsafe acts, practices, or behaviors.

### **First Aid and Medical Assistance**

There will be adequate first aid supplies and/or an adequate first aid kit available at each workplace. Where required, or in the case of an emergency where the workplace is located in a remote location and emergency medical assistance cannot arrive within a few minutes, there will be a designated certified first aid trained employee who can assist in first aid emergency cases. Employees who receive work-related injuries or illnesses will be given immediate attention regarding the nature of their injury or illness.





## Section 5 – Communication

### Purpose

This section establishes procedures designed to develop and maintain employee involvement and interest in safety, in particular, this Safety Manual. These procedures should help ensure effective communication between management and employees on safety-related issues that is of utmost importance to HCS's management team. The following are some of the safety communication methods that may be used:

1. Periodic safety meetings with employees that encourage participation and open two-way communication.
2. New employee safety orientation and provision of the Code of Safe Practices.
3. Provision and maintenance of employee bulletin boards discussing safety issues, accidents, and general safety suggestions.
4. Written communications from management or the Safety Program Manager, including memos, postings, payroll stuffers, and newsletters.
5. Anonymous safety suggestion program.

Employees will be kept advised of highlights and changes relating to the safety program. Management shall relay changes and improvements regarding the safety program to employees, as appropriate. Employees will be involved in future developments and safety activities by requesting their opinions and comments as necessary.

All employee-initiated safety-related suggestions shall be properly answered, either verbally or in writing, by the appropriate level of management. Unresolved issues shall be relayed to the program manager or safety committee members.

All employees are encouraged to bring any safety concerns they may have to the attention of management. HCS will not discriminate against any employee for raising safety issues or concerns.

HCS also has a system of anonymous notification whereby employees who wish to inform the management team of workplace hazards without identifying themselves may do so by phoning or sending written notification to the main office.



## **Section 6 – Incident/Accident Investigation**

### **Purpose**

To ensure that all incidents, accidents, property damage, and injuries to employees are investigated for the root cause and to verify that corrective actions are taken and implemented. Ultimately, near miss and accident investigations are an important tool to help prevent accidents from happening or recurring.

### **Investigation Procedures**

The supervisor at the location where the incident occurred will perform an incident/accident investigation. Incidents can include property damage, near misses, and workplace injuries and illnesses. These investigations are to assess the nature and the cause of the incident, not to place blame on personnel. Supervisors need to investigate incidents using procedures that include:

1. Implement temporary control measures to prevent any further injuries to employees or damage to equipment or property or the public.
2. Review the equipment, operations, and processes to gain an understanding of the accident situation.
3. Identify and interview witness(es) or person(s) who might provide clues to the causes.
4. Investigate causal conditions and unsafe acts; make conclusions based on existing facts. Complete the incident investigation report.
5. Provide recommendations for corrective actions.
6. Indicate the need for additional or remedial safety training, if needed.

Incident investigation reports must be submitted to the designated management personnel as soon as possible after the incident. Investigations involving serious injuries, catastrophes, or fatalities will include a team of personnel, so a thorough and accurate investigation including root-cause analysis can occur.

### **Incident Report Form**

The incident report form should be a simple format for the supervisor to complete promptly. This initial incident report can be similar to the OSHA 301 "Injury and Illness Incident Report" form. To correctly assess the nature and causes of the incident, the form should contain questions such as who, what, when where and how to determine the root cause and prevent the incident from recurring.

### **Record-Keeping Procedures**

HCS will control and maintain all employee accident and injury records. Records are maintained for a minimum of five (5) years following the end of the year to which they relate. The data on the Injury and Illness log and posting of the Summary of Work-related Injuries and illnesses will be in accordance with government regulations. The following will be included in the recordkeeping process:

- Log of Work-related Injuries and Illnesses (OSHA form 300)
- Summary of Work-related Injuries and Illnesses (OSHA form 300A)
- Incident investigation reports (OSHA form 301 or similar)
- Workers' Compensation Notice of Injury



## **Section 7 – Injury and Illness Recordkeeping**

### **Regulation**

OSHA 29 CFR 1904.39

### **Purpose**

To ensure all HCS employees understand the requirements for recording all injuries and illnesses.

### **Scope and Application**

This program covers all HCS operations.

### **Responsibilities**

#### *Management*

1. To make sure all OSHA recording requirements are met for all job-related injuries and illnesses.
2. To properly classify and record all job-related injuries and illnesses to meet OSHA recording guidelines.
3. To make sure all required postings are complete to meet OSHA recordkeeping requirements.
4. Maintain all records that are required.

#### *Supervisors/Department Heads/Foremen*

- Ensure all job-related injuries and illness are reported promptly to your direct Manager.

#### *Employees*

- To report all accidents and near misses that occur on a job site or inside HCS's facilities to their immediate supervisor/manager.

### **Procedure**

If an employer employs more than ten employees and whose establishments are not classified as a partially exempt industry, they must record work-related injuries and illnesses using OSHA Forms 300, 300A, and 301.

All employers must report:

1. All work-related fatalities within 8 hours.
2. All work-related inpatient hospitalizations, all amputations and all losses of an eye within 24 hours.

Also, all injuries which are recordable injuries or illness must be logged on the OSHA 300 Log and 301 incident report within seven calendar days of receiving information a recordable accident or illness has occurred at HCS.

At the end of each calendar year, an executive member of HCS must review the OSHA 300 log and acknowledge to the best of his/her ability the annual summary is correct and complete.

**Required Recordkeeping Posting**

HCS is required to keep Form 300, the Injury and Illness log, must post Form 300A, the Summary of Work-Related Injuries and Illnesses, in a workplace every year from February 1 to April 30. Current and former employees, or their representatives, have the right to access injury and illness records. Employers must give the requester a copy of the relevant record(s) by the end of the next business day

All OSHA 300 logs, including privacy case list (if it exists), the annual summary and the OSHA 301 Incident Report forms, must be kept for five years following the end of the calendar year these records cover.



## **Section 8 – Code of Safe Work Practices**

### **Purpose**

Safety rules, guidelines, and safe work practices that all HCS employees must follow as a condition of employment.

### **All Employees**

#### *Housekeeping*

1. Do not place material such as boxes or trash in walkways and passageways.
2. Keep floors clear of items such as scrap metal, welding rods, trash, and debris. Place material in identified trash bins.
3. Clean up spills or leaks immediately as per product Safety Data Sheets by using a paper towel, rag or a mop and bucket. Follow SDS clean up procedures for Personal Protective Equipment.
4. Mop up water around drinking fountains, drink dispensing machines, and ice machines. Place wet floor signs until dry.
5. Do not store or leave items on stairways.
6. Do not block or obstruct stairwells, exits, electrical panels or accesses to safety and emergency equipment such as fire extinguishers or fire alarms.
7. Straighten or remove rugs and mats that do not lie flat on the floor.
8. Return tools to their storage places after use.
9. Do not use gasoline or diesel for cleaning purposes.
10. Use caution signs or cones to barricade slippery areas such as freshly mopped floors.
11. Take periodic stretch breaks from repetitive or prolonged activities by standing up and stretching.
12. Obey all posted safety and danger signs.

### **Fabrication Shop**

#### *General*

1. Wear safety gloves, ANSI Z87.1 Eye Protection and or goggles at all times while working.
2. Do not work in loose clothing.
3. Maintain equipment as per manufactures operating recommendations.
4. Protect your ears by wearing hearing protection ANSI S12.42 / S3.19 and head protection ANSI Z89.1
5. Keep fab shop organized and clean of debris
6. Communicate safety rules clearly and hold people and each other accountable
7. Lockout/tagout procedures must be used when equipment needs service. Follow Lockout/ Tagout procedures Section 24. Never work on energized equipment.
8. All flammable and combustible liquids must be stored in approved metal containers, and each cabinet must be marked: FLAMMABLE—KEEP AWAY FROM FIRE. No smoking allowed near flammable storage areas.
9. Never have electrical cord laying in puddles of water.
10. Unplug and store electrical cords if not in use.

### *Welding and Cutting*

1. All compressed gas cylinders must be stored and secured in an upright position.
2. Valve protection caps must be in place at all times when the cylinders aren't in use and during transport.
3. Valve protection caps and cylinder collars must never lift a cylinder.
4. During cylinder transport, use the correct dolly that includes chains or other similar securing device.
5. When cylinders aren't in use, the valves must be off.
6. Cylinders must be stored away from ignition sources.
7. Damaged or defective cylinders or valves must never be used.
8. Hoses and connections must be inspected before use. Perform leak test prior to work to identify any leaks present (Use a soap solution to determine gas leakage but never matches or lighters.) Gauges must be in working order. Defective gauges must be removed from service.

### *Arc Welding & Cutting*

1. Only use fully insulated components.
2. Cables must not be used if they need repair or contain repairs or splices within 10 feet of the cables' end to which the electrode is connected.
3. When electrode holders are left unattended, remove the electrodes. The holder must be placed so it cannot make electrical contact with people or objects.
4. Hot electrode holders must never be placed in water due to exposure of electric shock.
5. The operator must open the power supply switch when they need to leave or stop for any amount of time.
6. The operator must report faulty or defective equipment to a supervisor.
7. All arc-welding and shielding operations must be shielded with a noncombustible or flameproof screen.

### *Fire Prevention*

1. Surfaces covered with heavy dust or flammable paints or compounds must not be welded, cut, or heated.
2. During welding or cutting, preventive means must be taken to confine heat, sparks, and slag. Fire blankets for an example.
3. Take precautions on the opposite and work sides of the structure when working on a wall, ceiling, or floor. Barricade work and affected areas.
4. Drums, pails and other containers with flammable contents must use secure, closed lids unless the contents are being transferred or removed.
5. If a container that has held flammable materials needs to cut, heated, or welded, it must first be filled with water, thoroughly cleaned, and ventilated.
6. Any hollow container must have an opening or vent to release pressure.
7. A supply-air respirator must be supplied in the case of inert-gas metal-arc welding, confined spaces, or the use of toxic metals.

### *Safeguarding*

1. Prevent operators from reaching their hands or fingers through, over, around or under the guard.
2. Be constructed and installed without pinch points.
3. Use non-removable fasteners.
4. Make inspection easy.
5. Offer full visibility of the point of operation.
6. A die-enclosure guard must be fixed to the die shoe or stripper.
7. A fixed-barrier guard must be attached securely to the press frame or bolster plate.

8. The hinged or moveable sections of an interlocking press barrier guard cannot be used for manual feeding.
9. The adjustable barrier guard must securely attach to the press bed, bolster plate, or die shoe. Adjustments are allowed only by those who are familiar with OSHA's Table O-10.
10. Hand feeding tools must not be used to place materials in or remove them from the press. They cannot be used in place of either guards or devices.
11. The employer must eliminate hazards by using dies and operating methods that are designed for power presses.
12. The employer must enforce the use of hand tools for freeing and removing work or scrap stuck on the dies. Scrap from the roll feed or other sources must be handled as specified by the employer.
13. The employer must establish and follow a regular inspection program that takes place at weekly during which the clutch/brake, anti-repeat, and single stroke mechanisms are examined. Any necessary maintenance or repairs must take place before presses are operated.
14. Certification records must be available to document inspections, tests, and maintenance work. They must include the date of inspection, test, or maintenance; signatures of those who performed the operations; and the machine's serial number or other identification.
15. If anyone modifies a press, they must provide instructions on use and maintenance post-alteration. The employer must ensure their employees' competence who care for, inspect, and maintain power presses.
16. Before using a power press, the employer must have trained and instruct the operator on safe work methods and ensure that the machine is used within the correct tonnage and attachment weight rating specified by the manufacturer. Reference Manufactures Operating Manual as a guide.
17. The operator must be supervised to ensure correct machine operation. Enough space between machines is required to allow operators to work without interfering with each other, clean the machines and pieces, and handle materials around them.
18. Surrounding floors and other surfaces must be kept in good condition, obstruction-free, and clear of grease, oil, and water.
19. If a leak is present do not use the press until fixed by an authorized person.

#### *Ergonomics and Video Display Terminals*

1. Take periodic rest breaks from repetitive or prolonged activities by standing up and stretching.
2. Use a chair that is padded, is stable, mobile, swivels, and allows operator movement.
3. Sit straight up in your chair, and when needed use a footrest that has an adjustable height and is large enough to allow operator movement.
4. Adjust your computer screen and keyboard so that they are directly in front of you. Use a table large enough to hold keyboard, the display screen and all necessary documents.
5. Place the keyboard low enough so that the operator is not required to reach up or out to the keys.
6. Keep wrists and hands in a straight position while keystroking by keeping forearms parallel to the floor and elbows at your sides.

#### *Storeroom/Stockroom:*

1. Use long handled snips when cutting strapping bands away from a shipping container.
2. Wear your safety glasses when cutting strapping bands, uncrating materials, and driving nails.
3. Stand to the side of the strapping band when cutting it. Use extreme care when removing bands from pipe on round stock loads. Chock or block loads before removing band to prevent a load shift.
4. Do not use pallets or skids that are cracked or split or have other visible damage.
5. Stack heavy or bulky storage containers on middle and lower shelves of the storage rack.

6. Do not run on stairs or take more than one-step of a staircase at a time.
7. Do not jump from elevated places such as truck beds, platforms, or ladders.
8. Do not lift slippery or wet objects; use a hand truck.
9. Follow the safe handling instructions listed on the label of the container or listed on the corresponding Safety Data Sheet when handling each chemical stored in the stockroom.
10. Do not handle or load any containers of chemicals if their containers are cracked or leaking.

## **Office Employees**

### *General Rules*

1. Do not stand on furniture to reach high places.
2. Do not kick objects out of your pathway; pick them up or push them out of the way.
3. Do not jump from ladders or step stools.
4. Do not block your view by carrying large or bulky items; use the dolly or hand truck or get assistance from a fellow employee.
5. Do not throw matches, cigarettes or other smoking materials into trash baskets.
6. Do not tilt the chair you are sitting in. Keep all chair legs on the floor.
7. Use a ladder or step stool to retrieve or store items that are located above your head.

### *Doors*

1. Keep doors in hallways fully open or fully closed.
2. Use the handle when closing doors.

### *Files*

1. Open only one file cabinet drawer at a time. Close the filing cabinet drawer you are working in before opening another filing drawer in the same cabinet.
2. Put heavy files in the bottom drawers of file cabinets.
3. Use the handle when closing drawers and files.

### *Sharp Objects*

1. Store sharp objects, such as pens, pencils, letter openers or scissors in drawers or with the tips pointing down in a container.
2. Carry pencils, scissors, and other sharp objects with the tips pointing down.

### *Paper Cutter/Shredder*

1. Position hands and fingers on the handle of the paper cutter before pressing down on the blade.
2. Keep the paper cutter handle in the closed or locked position when it is not being used.
3. Do not use paper-cutting devices if the finger guard is missing.
4. Do not place your fingers in or near the feed of a paper shredder.

### *Staplers*

1. Point the ejector slot away from yourself and bystanders when refilling staplers.
2. Keep fingers away from the ejector slot when loading or testing stapling devices.
3. Use a staple remover, not your fingers, for removing staples.

### *Electrical*

1. Do not use frayed, cut, or cracked electrical cords.
2. Do not connect multiple electrical cords into a single outlet.
3. Do not use extension or power cords that have the ground prong removed or broken off.
4. Use a cord cover or tape the cord down when running electrical cords across aisles, between desks or across entrances or exits.
5. Turn the power switch to "Off" and unplug office machines before adjusting, lubricating or cleaning them.

### *Fans*

1. Do not use fans that have excessive vibration or missing guards.
2. Do not place floor type fans in walkways, aisles, or doorways.
3. Make sure the ground pin is not missing.
4. Inspect cord for any damage. If damage is identified tagout of service.

### *Stairs*



1. Use the handrails when ascending or descending stairs or ramps.
2. Do not run on stairs or take more than one-step at a time.

*Phone Use*

1. Sit up straight in your chair.
2. Keep your feet on floor.
3. If the chair height is too high, use a book or other object as a footrest.
4. If you use a traditional handset, do not hold the receiver by bending your neck to trap the receiver between your head and shoulder. Hold the receiver with your hand.
5. Use your headset for extended phone use.
6. For additional lower back support, place a pillow or bundled clothing in the chair at the small of your back.

*Cell Phone While Operating Company Owned Vehicle*

1. When operating an HCS owned vehicle no texting is allowed. Stop vehicle at a safe location prior to handling your phone.
2. Hands free head set must be used while vehicle is moving. The use of cell phones while driving a company truck is prohibited. No excuses.

**For Safety Disciplinary Procedures, see Disciplinary Procedures in the Appendices starting on page 172.**



## Section 9 – Emergency Action Plan

### **Regulation**

29 CFR.1910.38

### **Purpose**

The purpose of an EAP is to facilitate and organize employer and employee actions during workplace emergencies. This plan is designed to minimize injury and loss of human life and HCS resources by training employees, procuring and maintaining necessary equipment, and assigning responsibilities. This plan applies to all emergencies that may reasonably be expected to occur at HCS.

### **Scope and Application**

The following Emergency Action Plan applies to all situations where a particular OSHA Standard specifies that a plan is established.

### **Responsibilities**

#### *Emergency Plan Manager*

1. Plan manager will manage the Emergency Action Plan for HCS. He/she will also maintain all training records pertaining to this plan.
2. He/she is responsible for scheduling routine tests of HCS's emergency notification system with the appropriate authorities.
3. The Emergency Plan Manager shall also coordinate with local public resources, such as fire department and emergency medical personnel, to ensure that they are prepared to respond as detailed in this plan

#### *Emergency Plan Coordinators*

HCS's Plan Coordinator is responsible for instituting in their designated area the emergency plan procedures in the event of an emergency.

\*\*A list of who is HCS's coordinators with their pertinent information (i.e., phone number, department, building, etc.) will be located within the facility.

#### *Management*

HCS will provide adequate controls and equipment that, when used properly, will minimize or eliminate the risk of injury to employees in the event of an emergency. Management will ensure proper adherence to this plan through regular review.

#### *Supervisors*

Supervisors shall themselves follow and ensure that their employees are trained in the procedures outlined in this plan.

#### *Employees*

Employees are responsible for following the procedures described in this plan.

#### *Contractors*

Contract employees are responsible for complying with this plan and shall be provided the training described herein by an HCS representative.

## Plan Implementation

### 1. Reporting Fire and Emergency Situations

All fires and emergencies will be reported as soon as possible by one of the following means:

- If during normal work hours, then verbally as soon as possible
- If after normal work hours or on weekends, by telephone and/or text.

Under no circumstances shall an employee attempt to fight a fire that has passed the incipient stage (that which can be put out with a fire extinguisher), nor shall any employee attempt to enter a burning building to conduct search and rescue. These actions shall be left to emergency services professionals who have the necessary training, equipment, and experience (such as the fire department or emergency medical professionals). Untrained individuals may endanger themselves and/or those they are trying to rescue.

### 2. Informing HCS Employees of Fires and Emergency Situations

In the event of a fire or emergency situation, a person shall ensure that all employees are notified as soon as possible using the building alarm system (which includes both audible and visual alarms 24 hours a day). The person shall provide special instructions to all employees via some forms of communication such as public announce system, radios, fog horns, etc.

If a fire or emergency situation occurs after normal business hours, co HCS management shall contact all employees not on the shift of future work status, depending on the nature of the situation.

### 3. Emergency Contact Information

HCS shall maintain a list of all employees' personal emergency contact information and shall keep the list in a designated area for easy access in the event of an emergency.

### 4. Evacuation Routes

HCS will have evacuation escape routes posted in designated areas throughout the building. In the event that a fire/emergency alarm is sounded or instructions for evacuation are given by an HCS employee. All employees shall immediately exit the building(s) at the nearest exits as shown in the escape route plans and shall meet as soon as possible at HCS's designated assembly area. Employees with offices shall close the doors (unlocked) as they exit the area.

Mobility impaired employees and their assigned assistants will gather at the designated area within the building to ensure safe evacuation.

### 5. Securing Property and Equipment

In the event that evacuation of the premises is necessary, some items may need to be secured to prevent further detriment to the facility and personnel on hand (such as securing confidential/irreplaceable records or shutting down equipment to prevent the release of hazardous materials). Only the following individuals may remain in the building for the prescribed amount of time to secure the property and equipment to which they have been assigned.

<b>Name</b>	<b>Property or Equipment to Secure</b>	<b>Location of Property or Equipment</b>	<b>Estimated time to complete security process</b>

All individuals remaining behind to shut down critical systems or utilities shall be capable of recognizing when to abandon the operation or task. Once the property and/or equipment has been secured, or the situation becomes too dangerous to remain, these individuals shall exit the building by the nearest escape route as soon as possible and meet the remainder of the employees at the assembly area.

### 6. Advanced Medical Care

Under no circumstances shall an employee provide advanced medical care and treatment. These situations shall be left to emergency services professionals or employees who have the necessary training, equipment, and experience. Untrained individuals may endanger themselves and/or those they are trying to assist.

7. *Accounting for Employees/Visitors After Evacuation*

Once an evacuation has occurred, HCS designated person shall account for each employee/visitor assigned to them at the assembly area. Each employee is responsible for reporting to the appropriate person so that an accurate headcount can be made. All employee counts shall then be reported to the Emergency Action Plan Manager as soon as possible.

8. *Re-entry*

Once the building has been evacuated, no one shall re-enter the building for any reason, except for designated and properly trained rescue personnel (such as fire department or emergency medical professionals). Untrained individuals may endanger themselves and/or those they are trying to rescue.

All employees shall remain at the assembly area until the fire department or other emergency response agency notifies an HCS official:

- a. the building is safe for re-entry, in which case personnel shall return to their workstations
- b. the building/assembly area is not safe, in which case employees shall be instructed by an HCS official on how/when to vacate the premises.

9. *Sheltering in Place*

If chemical, biological, or radiological contaminants are released into the environment in such quantity and/or proximity HCS office/facility, authorities and/or HCS official may determine that is safer to remain indoors rather than to evacuate employees.

The Emergency Action Plan Manager shall announce Shelter in Place status by public address system or other means of immediate notification available at the worksite. The following protocol will be followed:

- a. The business will be closed immediately by HCS management personnel. If there are customers, clients, or visitors in the building, they shall be advised to stay in the building for their safety.
- b. Unless there is an imminent threat, employees, customers, clients, and visitors shall call their emergency contacts to let them know where they are and that they are safe.
- c. A designated HCS employee shall turn on call-forwarding or alternative telephone answering systems or services. The recording for voice mail or automated attendant shall be changed to indicate that the business is closed, and that staff and visitors will be remaining in the building until authorities advise that it is safe to leave.
- d. The designated person will quickly lock exterior doors and close windows, air vents, and fireplace dampers. The person who is familiar with the building's mechanical systems shall turn off, seal, or disable all fans, heating and air conditioning systems, and clothes dryers, especially those systems that automatically provide for exchange of inside air with outside air. If there is a danger of explosion, all window shades, blinds and curtains shall be closed.
- e. The designated person shall gather essential disaster supplies (i.e., nonperishable food, bottled water, battery-powered radios, first-aid supplies, flashlights, batteries, duct tape, plastic sheeting, and plastic garbage bags), which are stored inside building at pre-determined designation. The supplies will be taken to the shelter in place within the building.
- f. All employees, customers, and visitors shall move immediately to the building pre-determine shelter in place
- g. A designated HCS employee shall write down the names of everyone in the room and call the designated emergency contact outside of the building to report who is in the room, and their affiliations with HCS (i.e., employee, visitor, client, customer).
- h. HCS officials shall monitor telephone, radio, television and Internet reports for further instructions from authorities to determine when it is safe to leave the building.

## *10. Severe Weather*

The Emergency Action Plan Manager shall announce severe weather alerts (such as tornados) by public address system or other means of immediate notification available within the facility or worksite. All employees shall immediately retreat to the designated area until the threat of severe weather has passed as communicated by the Emergency Action Plan Manager.

## **Training**

### *1. Employee Training*

All employees shall receive instruction on this Emergency Action Plan as part of New Employee Orientation upon hire. Additional training shall be provided:

- when there are any changes to the plan and/or facility;
- when an employee's responsibilities change; and
- annually as refresher training.

Items to be reviewed during the training include:

- a. proper housekeeping;
- b. fire prevention practices;
- c. fire extinguisher locations, usage, and limitations;
- d. threats, hazards, and protective actions;
- e. means of reporting fires and other emergencies;
- f. names of Emergency Action Plan Manager and Coordinators;
- g. individual responsibilities;
- h. alarm systems;
- i. escape routes and procedures;
- j. emergency shut-down procedures;
- k. procedures for accounting for employees and visitors;
- l. closing doors;
- m. sheltering in place;
- n. severe weather procedures; and
- o. Emergency Action Plan availability.

### *2. Fire/Evacuation Drills*

Fire/Evacuation drills shall be conducted at least annually and shall be conducted in coordination with local police and fire departments. Additional drills shall be conducted if physical properties of the business change, processes change, or as otherwise deemed necessary.

### *3. Training Records*

The trainer shall document all training pertaining to this plan and shall maintain records at a pre-determined location within HCS.

## **Plan Evaluation**

HCS's Emergency Action Plan shall be reviewed annually, or as needed if changes to the worksite are made, by a designated HCS employee. Following each fire drill, management shall evaluate the drill for effectiveness and weaknesses in the plan and shall implement changes to improve it.



## **Section 10 – Hazard Communication (HAZCOM)**

### **Regulation**

OSHA 29 CFR 1910.1200

### **Purpose**

To keep all employees safe that use chemicals during their course of work.

### **Policy**

The following written Hazard Communication Program has been established by HCS. All work units of HCS are included within this program. The written program will be available in the office, located at the pre-determined designated location.

This policy covers all potential workplace exposures involving hazardous substances as defined by federal, state, and local regulations.

### **Scope and Application**

This program applies to all employees who could be exposed to any type of hazardous chemical(s) during work. This program covers all employees, vendors, and contractors who work inside HCS facilities or any HCS operated job site.

### **Definitions**

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

Chemical Inventory List - a list of chemicals used at this facility, or by personnel that reports to this facility.

Electronic Access – using electronic media (telephone, fax, internet, etc.) to obtain Safety Data Sheets or health information.

Facility - an establishment at one geographical location containing one or more work areas.

(GHS) Globally Harmonized System - The Globally Harmonized System (GHS) is an international approach to hazard communication, providing agreed criteria for the classification of chemical hazards, and a standardized approach to label elements and safety data sheets. NOTE: Most new GHS requirements apply to substance manufacturers or distributors since they are responsible for including safety data sheets with purchased substances. However, all employers are still required to train each employee on the new label elements and safety data sheets format. Specific training information can be found at <https://www.osha.gov/dsg/hazcom/>.

Hazardous Chemical - any chemical that is a physical hazard, a health hazard, or has a Permissible Exposure Limit established for it.

Hazardous Substance - see hazardous chemical.

Hazard Communication Program Coordinator - the person who has overall responsibility at a facility for that facility's Hazard Communication Program.

Health Hazard - a substance for which there is statistically significant evidence based on at least one study conducted in accordance with established scientific principles that acute or chronic adverse health effects may occur in exposed employees.

IDLH - immediately dangerous to life and health.

Immediate Use - the 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.

Job Site - an area remote from a facility where hazardous chemicals are stored or used, and employees are present for the purpose of business.

Safety Data Sheet - a written or printed document containing chemical hazard and safe handling information, prepared in accordance with the OSHA Occupational Safety & Health Standards, Section 1910.1200, paragraph (g). Now referred to as (SDS) "Safety Data Sheets" under 2013 GHS HAZCOM update.

(NFPA) National Fire Protection Association Labeling - a common industry labeling method developed by the National Fire Protection Association to identify the hazards associated with a particular chemical.

(PEL) Permissible Exposure Limit - the maximum eight-hour time-weighted average of any airborne contaminant to which an employee may be exposed.

Readily Available - when an employee has access during the course of his/her normal work shift.

(SDS) Safety Data Sheet - a written or printed document containing chemical hazard and safety handling info, prepared in accordance with the new HAZCOM GHS requirements.

Substance - see Chemical.

(TLV) Threshold Limit Value - the airborne concentration of a substance that represents conditions under which it is believed that nearly all normal workers may be repeatedly exposed day after day without adverse effect.

Work Area - a room or defined space in a facility where hazardous chemicals are stored or used and where one or more employees are present.

Workplace - see Facility.

Workplace Chemical List - see Facility Chemical List.

### **Responsibilities**

A written hazard communication program shall be developed, implemented, and maintained at each workplace. The program will describe how labels and other forms of warning, Safety Data Sheets and employee information will be kept, maintained, and disseminated.

A designated employee is responsible for developing and implementing the Hazard Communications Program. Managers are responsible for maintaining the Safety Data Sheets and the Chemical Inventory List for their respective locations. The designated person will review the SDS files and Chemical Inventory List least annually to ensure they are current and complete.

A designated employee is also responsible for ensuring that all containers from manufacturers or distributors have the correct and updated labels per the new GHS requirements and for ensuring that all applicable employees are trained on the new label elements and safety data sheets format. Training info can be found here: <https://www.osha.gov/dsg/hazcom/>.

Employees are responsible for following the requirements outlined in the Hazard Communication Program, to use proper personal protective equipment, to report containers without labels immediately to their supervisor and to never deface any label.

Any employee who transfers any material from one container to another is responsible for labeling the new container with all required information.

All employees are responsible for learning the requirements of this section and for applying them to their daily work routine.

## **Requirements**

### *Introduction*

This Hazard Communication Program was prepared for use by HCS to explain how we meet the requirements of the federal Occupational Safety and Health Administration's (OSHA's) Hazard Communication Standard (29 CFR 1910.1200). It spells out how we inventory chemicals stored and used, how we obtain and use Safety Data Sheets, how we maintain labels on chemical substances, and how we train employees about the hazards of chemicals they are likely to come in contact with on the job.

Preparation of this program indicates our continuing commitment to safety among our employees in all of our locations.

Each facility is expected to follow this program and maintain its work areas in accordance with these requirements:

1. Employees, their designated representatives, and government officials must be provided copies of this program upon request.
2. As part of our ongoing hazard communication effort, we will make available other information in addition to the program to any worker requesting it.
3. Asking to see this information is an employee's right,
4. Using this information is part of our shared commitment to a safe, healthy workplace.

### *List of Hazardous Chemicals*

Maintains a listing of all known hazardous chemicals known to be present at each job site by using the identity it is referenced by on the appropriate safety data sheet (SDS). This identity is often a common name, such as the product or trade name (i.e., Lime-A-Way).

The Chemical Inventory List is updated annually by the Hazard Communication Program Coordinator or their designee with additional updates being made when necessary.

The facility Chemical Inventory List must be available for review upon request. Additionally, a written hazard communication program must be developed, implemented & maintained at each workplace.

Chemical manufacturers are responsible for developing SDS's, now SDS's. HCS shall have an SDS for each chemical used with the exception of consumer products. SDS's must be obtained for each required chemical from the chemical manufacturer, supplier, or vendor. The purchasing of any potentially hazardous chemical products from any supplier that does not provide an appropriate Safety Data Sheet in a timely fashion is strictly prohibited.



SDS's shall be maintained and readily accessible in each workplace. SDS's can be maintained at the primary worksite. However, they should be immediately available in case of emergency. SDS's must be made available upon request to employees, their designated representatives, the Assistant Secretary of Labor, and to the Director of OSHA.

Safety Data Sheets are filed alphabetically, and by material classification, in the SDS Book. A Chemical Inventory List is provided in the front of the SDS Book, listing all SDS' contained therein. This inventory serves as the index of the SDS Book. The SDS Book shall be displayed in a prominent location in the work area where it is accessible to all employees.

A copy of an SDS request form is located in the first section of the SDS Book. An employee may use a copy of this form to request an SDS, or he may ask the Manager for one. In either case, the requested SDS must be given to the employee within 24 hours of being requested.

The Safety Data Sheet must be kept in the SDS library for as long as the chemical is used by the facility.

Electronic access (telephone, fax, Internet, etc.) may be used in the acquisition of any needed SDS and to maintain SDS libraries and archives.

The Manager is responsible for seeing that the Chemical Inventory List inventory is maintained, is current, and is complete. He will review and update the inventory and the SDS Book at least annually. When a hazardous material has been permanently removed from the workplace, its SDS is to be removed from the SDS's Book and the Chemical Inventory List. The SDS is then placed in a "dead file" in case it is needed in the future.

SDS's for hazardous materials to which employees have been exposed must be maintained after the employee leaves your employment.

Employees will be advised of all special instructions, PPE, and the hazards associated with chemicals-including chemicals contained in unlabeled pipes in their work areas. The Manager will inform employees of the hazards of non-routine tasks by presenting a copy of the site-specific hazardous materials list, ensuring that the employee is aware of their presence should a non-routine task with unfamiliar materials present itself.

Employees have the right to request SDS on any chemical, which must then be provided without any issues.

#### *Labels, Labeling, and Warnings:*

The Manager will ensure that all hazardous chemicals used or stored in the facility are properly labeled.

1. Damaged labels or labels with incomplete information shall be reported immediately,
2. Damaged labels on incoming containers of chemicals will not be removed,
3. New labels shall be provided as needed so that all containers are labeled correctly,
4. Only containers into which an employee transfers a chemical for their immediate use will not require labeling,
5. Employees who are unsure of the contents of any container, vessel, or piping must contact their supervisor for information regarding the substance, including:
  - a. The name of the substance,
  - b. The hazards associated with the substance,
  - c. The safety precautions required for working with the substance.

Labels, tags, or markings on containers shall use the following 16-section (GHS) formatting convention and headings:

1. Identification
2. Hazard(S) Identification
3. Composition/Information on Ingredients
4. First-Aid Measures
5. Fire-Fighting Measures
6. Accidental Release Measures
7. Handling & Storage
8. Exposure Controls/Personal Protection
9. Physical and Chemical Properties
10. Stability and Reactivity
11. Toxicological Information
12. Ecological Information
13. Disposal Considerations
14. Transport Information
15. Regulatory Information
16. Other Information, Including Date of Preparation or Last Revision

All containers must be labeled correctly under the new GHS HazCom standard, and this responsibility usually falls upon the manufacturer's shoulders. However, if labels are not present for any reason, employers are responsible for labeling containers. Upon transferring the content of one container to another, the employee must label the new container with all required information. This information can be obtained from the labeling of the original container or the material's SDS. Any container of a potentially hazardous material that will not be emptied during one shift must be labeled, without exception.

Personnel in the Shipping and Receiving Departments are responsible for the proper labeling of all containers shipped by HCS and for the inspection of all incoming materials for correct labeling. Chemicals received from vendors that are improperly labeled must be rejected.

NFPA Standard 704 labels shall be the preferred hazard identification method used in HCS facilities and on materials containers used on client sites. All employees, clients, subcontractors, and visitors who may come in contact with a hazardous substance must be briefed to ensure understanding of the NFPA 704 labeling system.

### **Training**

Employees shall be provided with appropriate, effective information and training on the hazardous chemicals in their work area at the time of their initial assignment, and upon the introduction of a new physical or health hazard into their work area. Information and training may be designed to cover categories of hazards (e.g., flammability, carcinogens) or specific chemicals. However, chemical-specific information must always be available through labels and safety data sheets.

Additional training will be provided whenever a new chemical hazard is introduced into the work area. Supervisors will conduct supplementary training when deemed necessary to reinforce the importance of the proper use and handling of chemicals.

Only facility employees and individuals knowledgeable with the HCS Hazard Communication program will conduct training sessions.

The Manager shall ensure records of employee training are maintained properly.

When an outside contractor, such as a pest control worker or a carpenter, enters an HCS site to perform a service for HCS, they must first present SDS's for any hazardous chemicals which will be used. These SDS's will be treated with the same training requirements as the SDS's kept on-

site for regularly used chemicals and materials. The Manager will be responsible for contacting each contractor prior to work commencing, to gather and disseminate any information concerning chemical hazards the contractor is bringing into the workplace.

The Hazard Communication Program documented training shall, at a minimum, include:

1. Requirements, details, and rights of the employee as contained in the Hazard Communication regulation,
2. Operations and work areas where hazardous chemicals are present,
3. Location of the written Hazard Communication Program, SDS's and the Chemical Inventory List,
4. How to access SDS's or SDS information,
5. How to read labels and Safety Data Sheets for pertinent hazard information,
6. How employees can obtain and use the appropriate hazard information,
7. Methods and observations that may be used to detect the presence or release of hazardous chemicals by use of monitoring devices, visual appearance or odor,
8. The physical & health hazards of chemicals in the immediate work area,
9. Protection measures utilized for the prevention of hazards related to exposure,
10. Appropriate work practices,
11. Emergency procedures,
12. The use of proper PPE.

### **Multiple Work Sites**

Where employees must travel between workplaces during a work shift, the written HAZCOM Program shall be kept at a primary job site. If there is no primary job site, then the program shall be sent with employees.

The program shall be made available, upon request, to employees, their designated representatives, the Assistant Secretary, and the Director in accordance with requirements of 29 CFR 1910.1020(e).

### **Multiple Employer Job Sites**

A pre-job briefing shall be conducted with the contractor before work commences on site.

1. During this pre-job briefing, contractors shall provide to HCS current copies of all Safety Data Sheets along with the label information for every hazardous substance brought on-site.
2. Must notify and provide required SDS and label information for all hazardous materials the contractor may encounter on the job,
3. Labeling systems and precautionary measures to be taken by the contractor during both normal conditions and emergencies shall be addressed,
4. By providing such information to other employers, HCS does not assume any obligations that other employers have for the safety of their employees,
5. In this regard, other employers working on HCS property, or for HCS on client's property, remain fully responsible for developing and implementing their compliant hazard communication programs.

### **Hazard Warnings / NFPA 704**

The NFPA 704 Diamond is a means of disseminating hazard warning and information for a specific material. The diamond is divided into four sections. Each of the first three colored sections has a number in it associated with a particular hazard. The higher the number is, the more hazardous material is for that particular characteristic. The fourth section includes special hazard information. The four sections and an explanation of the numbers in them are provided as a reference below:

## NFPA Rating Explanation Guide

RATING NUMBER	HEALTH HAZARD	FLAMMABILITY HAZARD	INSTABILITY HAZARD	RATING SYMBOL	SPECIAL HAZARD
<b>4</b>	Can be lethal	Will vaporize and readily burn at normal temperatures	May explode at normal temperatures and pressures	ALK	Alkaline
				ACID	Acidic
<b>3</b>	Can cause serious or permanent injury	Can be ignited under almost all ambient temperatures	May explode at high temperature or shock	COR	Corrosive
				OX	Oxidizing
<b>2</b>	Can cause temporary incapacitation or residual injury	Must be heated or high ambient temperature to burn	Violent chemical change at high temperatures or pressures	☢	Radioactive
				☞	Reacts violently or explosively with water
<b>1</b>	Can cause significant irritation	Must be preheated before ignition can occur	Normally stable. High temperatures make unstable	☞OX	Reacts violently or explosively with water and oxidizing
<b>0</b>	No hazard	Will not burn	Stable		



## **Section 11 – Hazard Assessment and Identification**

### **Regulation**

OSHA 29 CFR 1910.1200

### **Purpose**

HCS is responsible for the identification and control of hazards. Hazard Risk Assessment and Control is critical to the success and effectiveness of our program.

Hazard Identification is a proactive process to identify hazards and eliminate or minimize/reduce the risk of injury/illness to workers and damage to property, equipment, and the environment. It also allows HCS to show our commitment and due diligence to a healthy and safe workplace. We must identify hazards and potential hazards in the workplace to be able to take action to eliminate or control them.

### **Scope and Application**

This is a step by step process to guide our employees, vendors, and contractors to an effective hazard identification, assessment, and controls system. The steps include:

1. Hazard Assessment: identifying the hazards and potential hazards, determining the risks and the risk designation (rating) associated with the hazard based on probability, severity, and frequency
2. Hazard control - controlling the hazards and the risks associated with the hazard
3. Providing information, education, training and supervision on the hazards, risks and controls for employees affected by the hazards
4. Review of the hazard assessment and control process

### **Responsibilities**

#### *Senior Management*

1. Ensure that the hazard assessment and control program is implemented in their areas of responsibility
2. Provide the resources to ensure that employees are involved in the hazard assessment and control process
3. Ensure Manager and Supervisors are fulfilling their responsibilities for conducting hazard assessments and implementation of hazard control recommendations.
4. Sign off on a final copy of Hazard Risk Assessment and Control Forms
5. Ensure that written preventative maintenance procedures are implemented for applicable equipment.
6. Ensure that written preventative maintenance procedures are implemented for applicable equipment.

#### *Managers/Supervisors/Foremen*

1. Identify, assess, control, and document (hazard inventory) hazards or potential hazards in or near the workplace.
2. Consult with employees when conducting hazard identification, risk assessment, and control.
3. Include identified hazards and controls on the Workplace Inspection Checklist Form
4. Develop written safe work procedures for safe and healthy work practices in consultation with employees.

5. Inform employees of the safety hazards and provide information, education, training, and supervision on the hazards, controls and safe work procedures (safety talks, dedicated time during staff meetings, etc.). Maintain appropriate documentation for information, education, training and supervision provided to employees and ensure it is available upon request by employees, employer, contractors, safety team or committees.
6. Identify hazards or potential hazards before the implementation of any change. If unable to eliminate hazards, establish appropriate control measures to prevent occupational injury and illness based on following hierarchy of controls:

### **Hierarchy of Controls**

1. Elimination – removing a hazardous task, tool, machine, substance, or process and is the best method for protecting workers.
2. Substitution – substituting for a less hazardous task, tool, machine, substance, or process.
3. Engineering – focus on the hazard and include isolation, barriers, workplace design, dilution, guards, etc.
4. Administrative – focus on employee exposure and behavior and include safe work procedures, safe work practices, training, information, supervision, etc.
5. Personal Protective Equipment (PPE) – last line of defense as this does not control the hazard, but rather, protects the employee from the hazard.

**Note:** PPE is always used in conjunction with engineering and administrative controls.

### *Employees*

1. Identify work-related hazards or potential hazards in or near the workplace. Attempt to eliminate or control the hazard if within the scope of your ability and authority to do so.
2. Report all identified hazards to the immediate supervisor or manager.
3. Take appropriate measures for the protection of self and others from occupational injury and illness. Utilize all identified control measures.
4. Cooperate with management in the identification, reporting, and control of hazards that may lead to incidents involving injuries or illnesses.
5. Participate in the hazard assessment and control process, as required.
6. Recommend improvements to the control of hazards to their supervisor/manager.
7. In cases where a hazard has been identified but not corrected by the manager, you then should report the hazard to the Plant Manager.

### **Identify the Hazards**

The supervisor is to start the hazard identification process before the job begins by identifying hazards that are known to exist on-site and documenting them. By identifying hazards early, the supervisor may be able to implement controls before any workers arrive on site.

To ensure the process is thorough the supervisor should:

1. look at all aspects of the work
2. include non-routine activities such as maintenance, repair, or cleaning
3. look at accident/incident/ near-miss records, including people who work "off= site" either at home, on other job sites, drivers, teleworkers, with clients, etc.,
4. look at the way the work is organized or "done" (include experience and age of people doing the work, systems being used, etc.)
5. look at foreseeable unusual conditions (for example possible impact on hazard control procedures that may be unavailable in an emergency, power outage, etc.),
6. examine risks to visitors or the public,
7. include an assessment of groups that may have a different level of risks such as young or inexperienced workers, persons with disabilities, or new or expectant mothers.

To identify potential hazards, the following questions may be asked (this is not a complete list):

1. Can anybody part get caught in or between objects?
2. Do tools, machines, or equipment present any hazards?
3. Can the worker make harmful contact with objects?
4. Can the worker slip, trip, or fall?
5. Can the worker suffer a strain from lifting, pushing, or pulling?
6. Is the worker exposed to extreme heat or cold?
7. Is excessive noise or vibration a problem?
8. Is there a danger from falling objects?
9. Is lighting a problem?
10. Can weather conditions affect safety?
11. Is harmful radiation a possibility?
12. Can contact be made with hot, toxic, or caustic substances?
13. Are there dust, fumes, mists or vapors in the air?

### **Assess the Risk**

The ranking or prioritizing hazards is one way to help determine which hazard is the most serious and thus which hazard to control first. Priority is usually established by taking into account the employee exposure and the potential for accident, injury or illness. By assigning a priority to the hazards, you are creating a ranking or an action list. The following factors play an important role:

- percentage of workforce exposed
- frequency of exposure,
- degree of harm likely to result from the exposure,
- probability of occurrence.

There is no one simple or single way to determine the level of risk. Ranking hazards requires the knowledge of the workplace activities, the urgency of situations, and most importantly, objective judgment.

### **Develop Safe Practices**

Once the risk has been assessed, the appropriate controls need to be put into place.

The main ways to control a hazard include:

1. Elimination (including substitution): remove the hazard from the workplace.
2. Engineering Controls: includes designs or modifications to plants, equipment, ventilation systems, and processes that reduce the source of exposure.
3. Administrative Controls: controls that alter the way the work is done, including the timing of work, policies and other rules, and work practices such as standards and operating procedures (including training, housekeeping, and equipment maintenance, and personal hygiene practices).
4. Personal Protective Equipment: equipment worn by individuals to reduce exposure, such as contact with chemicals or exposure to noise.
5. These methods are also known as the "hierarchy of control" because they should be considered in the order presented (it is always best to try to eliminate the hazard first, etc.).

Controls are usually placed:

- At the source (where the hazard "comes from")
- Along the path (where the hazard "travels")
- At the worker

Control at the source and control along the path are also known as engineering controls.

Administrative controls limit workers' exposure by implementing other "rules," such as training, supervision, shorter shifts in high-risk areas, etc. These control measures have many limitations because the hazard itself is not actually removed or reduced. Administrative controls are not generally favored because they can be difficult to implement, maintain and are not a reliable way to reduce exposure

Personal protective equipment (PPE) includes items such as respirators, protective clothing such as gloves, face shields, eye protection, and footwear that serve to provide a barrier between the wearer and the chemical or material. It is the final item on the list for a very good reason. Personal protective equipment should never be the only method used to reduce exposure except under very specific circumstances because PPE may "fail" (stop protecting the worker) with little or no warning.

### **Communicate the Controls and Train the Workers**

Once the control has been put into place, the workers need to be trained in how to use it. This applies whether it is an engineering control such as a guard or interlock, an administrative control such as a safe work procedure for cold weather or particular PPE when handling a chemical. Training records and/or documented signoffs are required to show that the workers have been made aware of the hazards and the controls.

### **Review Periodically**

Repeat the Hazard Assessment process every two years or when site conditions change, when new tasks are added or when new workers join the crew, to prevent the development of unsafe working condition.





## **Section 12 – First Aid, CPR, and Medical Emergency Procedures**

### **Regulation**

29 CFR 1910.151

### **Purpose**

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

### **Scope**

This policy applies to all employees and all visitors or vendors.

### **Responsibilities**

Senior management will:

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

The Safety Administrator will administer all aspects of this policy to include:

1. Maintaining and updating the written program as required.
2. Coordinating necessary training for all affected employees.
3. Providing necessary technical assistance to managers and supervisors.
4. Periodically assessing the effectiveness of this program and its implementation in all affected areas of HCS.

Managers and supervisors will:

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

All affected employees will:

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

## **Policy Evaluations and Updates**

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

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

## **Procedure**

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

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

Treatment and supplies can be administered only by designated, trained personnel. All incidents must be properly documented.

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

## **First Aid Supplies**

First aid supplies should be monitored and restocked on a periodic basis. An HCS designated person will be responsible for choosing types and amounts of first-aid supplies and maintaining those supplies.

The supplies will be adequate and will reflect the most common injuries in the facility. First aid cabinets or kits will be maintained in accessible places in all parts of the facility. They will be regularly stocked and monitored to ensure availability in the event of an emergency.

First aid kits should include as a minimum the following

- 16 - Adhesive Bandages, 1" x 3."
- 1 - Adhesive Tape 2.5 yd
- 10 - Antibiotic Treatment Application, 1/57 oz
- 10 - Antiseptic Applications 1/57 oz
- 1 - Breathing Barrier
- 1 - Burn Dressing, gel soaked, 4" x 4."
- 10 - Burn Treatment, 1/32 oz
- 1 - Cold Pack
- 2 - Eye Covering
- 1 - Eye Wash, 1 oz.
- 1 - First Aid Guide
- 6 - Hand Sanitizer, 0.9g
- 2 - Pair Exam Gloves
- 1 - Roller Bandage, 2" x 4 yds

- 1 - Scissors
- 2 - Sterile Pad, 3" x 3."
- 2 - Trauma Pad, 5" x 9"
- 1 - Triangular Bandage, 40" x 40" x 56"

### **Medical Emergency**

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

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

### **Training**

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

1. Preparing to Respond to a Health Emergency
  - a. Prevention as a strategy in reducing fatalities, illnesses, and injuries
  - b. Interacting with the local EMS system
  - c. Maintaining a current list of emergency telephone numbers (police, fire, ambulance, poison control, etc.) accessible to all employees
  - d. Understanding legal aspects of providing first-aid care, including good Samaritan legislation, consent, abandonment, negligence, assault and battery, state laws and regulations
  - e. Understanding the effects of stress, fear of infection or panic, how they interfere with performance and what to do to overcome them
  - f. Learning the importance of universal precautions and body substance isolation to provide
    - a. protection from bloodborne pathogens and other potentially infectious materials
  - g. Learning how to properly use PPE, including gloves, eye protection, masks, and respiratory barrier devices
    - Learning proper management and disposal of blood-contaminated sharps and surfaces
2. Assessing the Scene and Victim(s)
  - a. Assessing the scene for safety, number of injured individuals and the nature of the event
  - b. Assessing the toxic potential of the environment and need for respiratory protection
  - c. Establishing when a confined space necessitates respiratory protection or special training to perform a rescue
  - d. Prioritizing care when there are several injured
  - e. Assessing each victim for responsiveness, airway blockage, breathing, circulation and medical alert tags
  - f. Taking a victim's history at the scene, including determining the mechanism of injury
  - g. Performing a logical head-to-toe check for injuries
  - h. Stressing the need to continuously monitor the victim
  - i. Emphasizing early activation of EMS
  - j. Indications for and methods

3. Responding to Life-Threatening Emergencies
  - a. Establishing responsiveness
  - b. Establishing and maintaining an open and clear airway
  - c. Performing rescue breathing
  - d. Treating airway obstruction in a conscious victim
  - e. Performing CPR
  - f. Using an AED
  - g. Recognizing the signs and symptoms of shock and providing first aid for shock due to illness or injury
  - h. Assessing and treating a victim who has an unexplained change in the level of consciousness or sudden illness
  - i. Controlling bleeding with direct pressure
4. Recognizing asphyxiation and the danger of entering a confined space without appropriate respiratory protection
5. Responding to Medical Emergencies
  - a. Chest pain
  - b. Stroke
  - c. Breathing problems
  - d. Anaphylactic reaction
  - e. Hypoglycemia in people with diabetes taking insulin
  - f. Seizures
  - g. Pregnancy complications
  - h. Abdominal injury
  - i. Reduced level of consciousness
  - j. Impaled object
6. Responding to Non-Life-Threatening Emergencies
  - a. Wounds
    - Assessment and first aid for abrasions, cuts, lacerations, punctures avulsions, amputations and crush injuries
    - Principles of wound care, including infection precautions
    - Principles of body substance isolation, universal precautions and use of PPE
  - b. Burns
    - Assessing the severity of a burn
    - Recognizing whether a burn is thermal, electrical or chemical and administering the appropriate first aid
    - Reviewing corrosive chemicals at a specific worksite along with administering appropriate first aid
  - c. Extreme Temperatures
    - Exposure to cold, including frostbite and hypothermia
    - Exposure to heat, including heat cramps, heat exhaustion, and heatstroke
  - d. Musculoskeletal Injuries
    - Fractures
    - Sprains, strains, contusions, and cramps
    - Head, neck, back and spinal injuries
    - Appropriate handling of amputated body parts
  - e. Eye injuries
    - First aid for eye injuries
    - First aid for chemical burns
  - f. Mouth and Teeth Injuries
    - Oral injuries, lip and tongue injuries, broken and missing teeth

- The importance of preventing aspiration of blood and/or teeth
- g. Bites and Stings
  - Human and animal bites
  - Bites and stings from insects, instruction in first-aid treatment of anaphylactic shock

### **Evaluation**

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

### **Frequency of Training**

At a minimum, training will be conducted:

1. Upon hire
2. When this plan changes
3. When employee duties change

### **Training for Non-First Responders**

Training will consist of:

1. Methods of alerting employees of an emergency
2. Employee duties upon discovering an emergency
3. Evacuation routes and evacuation locations
4. Procedures to be followed upon notification of emergency
5. Special critical operations duties assigned to employees
6. Operation and location of eyewash stations and emergency showers

### **Recordkeeping**

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

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



## Section 13 – Heat and Cold Illness Prevention

### Regulation

This program falls under the following regulation:  
Occupational Safety and Health Act of 1970 General Duty Clause (Section 5(a)(1))

### Purpose

Working in extreme temperatures (hot or cold) can overwhelm the body's internal temperature control system. When the body is unable to warm or cool itself, heat or cold-related stress can result. Heat and cold stress can contribute to adverse health effects which range in severity from

HCS has developed this Heat and Cold Stress Program to minimize the effects of heat and cold stress on our employees. This program contains the procedures and practices for safely working in temperature extremes.

### Scope and Application

This program was developed to protect all employees from hazards posed by working in the outdoor environment. HCS is committed to preventing extreme weather-related illnesses that can occur to employees working outdoors by:

1. Identifying, evaluating, and controlling potential exposure to extreme temperature, humidity, and other environmental factors.
2. Providing drinking water
3. Providing supervisor and employee training
4. Establishing extreme weather emergency procedures

Outdoor work includes any employee assigned to work in the outdoor environment regularly.

### Responsibilities

Safety Manager/Director shall:

1. Maintain, review, and update the Heat and Cold Stress Program as needed.
2. Provide monitoring and assist employees with the development of procedures to minimize the adverse effects of heat and cold stress in the workplace.
3. Provide training to employees affected by heat and cold.

Supervisors shall:

1. Review and comply with the provisions outlined in this program.
2. Ensure all employees are properly trained before working in extreme temperature conditions.
3. Assess the day-to-day heat or cold stresses on employees.
4. Assess employees workload and assigning work and rest schedules as needed.
5. Ensure all employees have the appropriate personal protective equipment (PPE) before working in extreme temperature conditions.
6. Ensure employees are familiar with this safety program.

Employees shall:

1. Review and comply with the provisions outlined in this program.
2. Complete training before working in extreme temperature conditions.
3. Wear the appropriate PPE.
4. Report heat and cold stress concerns to their supervisor.

## **Heat-Related Illnesses, Signs, Treatment, and Prevention**

While working in hot weather conditions, the human body may not be able to maintain a normal temperature just by sweating. If this happens, heat-related illnesses may occur. The most common health problems caused by hot work environments include:

**Heatstroke** – This is the most serious heat-related effect. Heatstroke occurs when the body temperature increases above 104°F. Signs and symptoms of heatstroke are confusion, loss of consciousness and lack of perspiration. This condition must be treated as a medical emergency, and the employee must receive immediate medical attention.

**Heat exhaustion** – signs and symptoms of heat exhaustion include headache, nausea, dizziness, weakness, irritability, confusion, thirst, heavy perspiration and a body temperature greater than 100.4°F. Employees experiencing heat exhaustion should be moved to a cool area, given fluids to drink and given cold compresses for their head, face, and neck. Employees should also be taken to a clinic or emergency room to be monitored by medical personnel.

**Heat cramps** – Signs and symptoms of heat cramps include muscle pains usually caused by the loss of body salts/fluids. Employees should replace fluid loss by drinking water and/or carbohydrate-electrolyte replacement liquids (e.g., Gatorade) every 15 to 20 minutes.

**Heat rash** – Heat rash is caused by excessive perspiration and looks like a red cluster of pimples or small blisters. Heat rash usually appears on the neck, upper chest, in the groin, under the breasts, and in elbow creases. Treatment for heat rash is to provide a cooler, less humid environment.

**Dehydration** – Dehydration is a major factor in most heat disorders. Signs and symptoms of dehydration include increased thirst, dry mouth, weakness or light-headedness (particularly if worse upon standing), and a darkening of the urine or a decrease in urination. Dehydration can be reversed or put back in balance by drinking fluids that contain electrolytes (i.e. Gatorade) that are lost during work-related activities. Avoid caffeinated drinks.

While heat-related illness is dangerous and potentially life-threatening, they can be prevented. Prevention methods include:

### *Acclimation*

Acclimation is a process by which the physical processes of an employee's body adjusts to the environment over a period of time. Based on data obtained from OSHA, this process usually takes five to seven days. This process could take up to three weeks, depending on the individual and their work environment. According to the American Industrial Hygiene Association, the process requires a consistent work level for at least two hours each day during the acclimation period for an employee to become acclimatized. Mere exposure to heat does not confer acclimatization, nor does acclimatization at one heat stress level confer resistance to heat stress at a higher temperature or more vigorous workload.

Employees who are not adequately acclimatized to the heat may experience temporary heat fatigue resulting in a decline in performance, coordination, or alertness. They may also become irritable or depressed. This can be prevented through gradual adjustment to the hot environment. People in good physical condition tend to acclimatize better because their cardiovascular systems respond better.

## **Engineering Controls**

For employees working indoors, the best way to prevent heat-related illness is to make the work environment cooler. Where and if possible, use air conditioning to cool the work area.

Alternatively, increase the general ventilation as much as possible by opening windows or doors. When available, use cooling fans to aid in increasing ventilation.

### **Safe Work Practices**

For employees working outdoors or working indoors without air conditioning or ventilation, take scheduled breaks in cool areas. Ensure there is plenty of cool water to drink and take water breaks as needed. Immediately report any problems to a supervisor. Supervisors should consider scheduling the hottest work for the coolest part of the day, assigning extra employees to high demand tasks, and using work-saving devices (e.g. power tools, hoists or lifting aids) to reduce the body's workload. All employees should watch out for the safety of their coworkers.

### **Heat Index**

The Heat Index is a single numeric value that uses both temperature and humidity to inform the public on how the weather outdoors "feels." The higher the Heat Index, the hotter the weather feels. OSHA has used the Heat Index to assign protective measures for workers as the Heat Index increases. These protective measures may reduce the likelihood of heat-related illnesses.

### **Cold Related Illnesses and Injuries; Signs, Treatment, and Prevention**

During cold weather, an employee's body will use energy to maintain normal internal body temperature. This will result in a shift of blood flow from the employee's extremities (hands, feet, and legs) and outer skin to the employee's core (chest and abdomen). If this happens, cold-related illnesses and injuries may occur if exposed to cold conditions for an extended period of time. The most common health problems caused by cold work environments include the following:

#### **I. Hypothermia**

Hypothermia is a potentially serious health condition. Hypothermia occurs when body heat is lost faster than it can be replaced. When the core body temperature drops to approximately 95°F, the onset of symptoms normally begins. The employee may begin to shiver, lose coordination, have slurred speech, and fumble with items in hand. The employee's skin will likely be pale and cold. As the body temperature continues to fall these symptoms will worsen and shivering will stop. Once the body temperature falls to around 85°F severe hypothermia will develop, and the person may become unconscious, and at 78°F, vital organs may begin to fail.

#### **Treatment for Hypothermia**

This will depend on the severity of the hypothermia. For cases of mild hypothermia move to a warm area and stay active. Remove wet clothes and replace with dry clothes or blankets, cover the head. To promote metabolism and assist in raising internal core temperature drink a warm (not hot) sugary drink. Avoid drinks with caffeine. For more severe cases do all the above, plus contact emergency medical personnel (Call 911 for an ambulance), cover all extremities completely, place very warm objects, such as hot packs or water bottles on the victim's head, neck, chest, and groin. Arms and legs should be warmed last. In cases of severe hypothermia, treat the employee very gently and do not apply external heat to re-warm. Hospital treatment is required.

#### **II. Frostbite**

Frostbite happens when the body's survival mechanisms kick in during extremely cold weather. To protect the vital inner organs, the body cuts circulation to your extremities: feet, hands, nose, etc., which eventually freeze. To avoid frostbite, stay inside during severe cold, especially when the wind chill is -50°F or below. If any employee must go out, they will need to try and cover every part of your body: ears, nose, toes, and fingers, etc. Mittens are better than gloves. Keep your skin dry. Stay out of the wind when possible. Drink plenty of fluids since hydration increases the blood's volume, which helps prevent frostbite. Avoid caffeine, alcohol, and



cigarette. Caffeine constricts blood vessels, preventing warming of your extremities. Alcohol reduces shivering, which helps keep you warm. Cigarettes shut off the blood flow to your hands.

1. First degree: ice crystals forming on your skin
2. Second degree: Skin begins to feel warm, even though it is not yet defrosted.
3. Third degree: Skin turns red, pale or white.
4. Fourth degree: Pain lasts for more than a few hours, and skin may develop dark blue or black. See a doctor immediately if these symptoms arise. Gangrene is a real threat.

### **Treatment for Frostbite**

Until you can get indoors:

1. Don't rub or massage cold body parts.
2. Put your hands in your armpits.
3. Hold onto another person or animal.
4. Drink warm liquids.
5. Put on extra layers of clothes, blankets, etc.
6. Remove rings, watches, and anything tight.

Once Indoors

1. Don't walk on a frostbitten for this could cause more damage.
2. Get in a warm, NOT hot, bath, and wrap employee's face and ears in a moist, warm, NOT hot, towel.
3. Don't get near a hot stove or heater or use a heating pad, hot water bottle, or a hairdryer. The employee may burn themselves before feeling returns.
4. Frostbitten skin will become red and swollen and feel like it's on fire. Blisters may develop. Don't break the blisters. It could cause scarring.
5. If an employee's skin turns blue or gray, is very swollen, blistered or feels hard and numb even under the surface, go to a hospital immediately.

### **III. Trench Foot**

Trench Foot is caused by having feet exposed to damp, unsanitary, and cold conditions including water at temperatures above freezing for long periods. It is similar to frostbite but considered less severe. Symptoms usually consist of tingling, itching or burning sensation. Blisters may be present.

#### **Treatment for Trench Foot**

Soak feet in warm water, then wrap with dry cloth bandages. Drink a warm, sugary drink. Seek medical attention if necessary.

#### **Dehydration**

It is easy to become dehydrated during cold weather. Signs of dehydration include increased thirst, dry mouth, weakness or light-headedness (particularly if worse upon standing), and a darkening of the urine or a decrease in urination. Dehydration can be reversed or put back in balance by drinking fluids that contain electrolytes (i.e. Gatorade) that are lost during work-related activities. Avoid caffeinated drinks.

Just as with heat related illness, cold related illnesses and injuries are dangerous and potentially life-threatening, however, they can be prevented. Prevention methods include:

#### **Acclimation**

Employees exposed to the cold should be physically fit, without any circulatory, metabolic, or neurologic diseases that may place them at increased risk for hypothermia. A new employee should not be required to work in the cold full time during the first days of employment until they become adjusted to the working conditions and required protective clothing. New employees should be introduced to the work schedule slowly and be trained accordingly.

## **Engineering Controls**

For employees working indoors, the best way to prevent cold-related illness is to make the work environment warmer. Where and if possible, use heaters to warm the work area. Alternatively, decrease the general ventilation as much as possible by closing windows or doors.

## **Safe Work Practices**

For employees working outdoors or working indoors without heat, take scheduled breaks in warm areas. If available, use wind barricades to block the wind from the employees. Ensure there is plenty of water to drink and take water breaks as needed. Immediately report any problems to a supervisor. Supervisors should consider scheduling the most work for the warmest part of the day, assigning extra employees to high demand tasks that will require longer periods in cold areas. All employees should watch out for the safety of their coworkers.

## **Personal Protective Equipment (PPE)**

PPE is an important factor in preventing cold stress-related illnesses and injuries. Employees should adhere to the following recommendations when dressing for work in a cold environment:

1. Wear at least three layers of clothing; an inner layer of wool, silk or synthetic to wick moisture away from the body; a middle layer of wool or synthetic to provide insulation even when wet; an outer wind and rain protection layer that allows some ventilation to prevent overheating.
2. Wear a hat or hood; up to 40% of body heat can be lost when the head is left exposed.
3. Wear insulated boots or other footwear.
4. Do not wear tight clothing; loose clothing provides better ventilation.
5. Keep a change of clothing available in case work clothes become wet.

## **Training and Recordkeeping**

Supervisors shall ensure all employees have received Heat and/or Cold Stress training prior to working in such conditions.

HCS's designated person can provide heat or cold stress training upon request.

All training records should be maintained in the employee's personnel file and maintained by the supervisor.



## Section 14 – Fire Extinguishers

**Regulation:** 29- CFR 1910.157 - NFPA 10

### **Purpose**

The purpose of this safety policy and the procedure is to establish HCS's methods and accountability for fire protection and safety within our facility/job sites.

### **Scope and Application**

Fire protection is important for HCS to minimize loss of life and property. The cost of fire protection is small compared to potential costs of incalculable human suffering and lost property.

This safety policy and procedure provide guidelines for implementing fire protection in the workplace. It includes provisions for training, discussion on portable fire extinguisher's classification and use, and information on fire hoses, water sprinkler systems, halon systems, and sprinkler system's alarms.

This document also details the areas of responsibility for manager's/unit heads, supervisors, and employees within HCS. This safety policy and procedure apply to all employees.

This program will be reviewed:

- On an annual basis
- When changes occur to 29 CFR, that prompt revision of this document
- When facility operational changes occur that requires a revision of this document
- When an accident or a near-miss occurs that relates to this area of safety

### **Responsibilities**

#### *Maintenance Manager*

The Maintenance Manager will provide prompt assistance to the manager(s)/unit heads, supervisors, foremen, or others as necessary on any matter concerning this safety policy and procedure. He will assist in developing or securing the required training. The Maintenance Manager will work with executive management to ensure that all newly purchased fire extinguishers comply with fire protection standards and this safety policy and procedure.

Additionally, the HCS safety consultant will provide consultative and audit assistance to ensure effective implementation of this safety policy and procedure. They will assist manager(s)/unit heads and supervisors with the selection of proper types and locations for fire extinguisher placement for new buildings and renovations.

#### *Supervisors/Managers*

Supervisors/Managers will ensure that employees are trained in the general principles of fire protection and the use and function of various types of fire protection equipment. Additionally, they shall ensure that there is an adequate number of portable fire extinguishers for each work area.

Each will ensure that fire extinguishers are recharged after each use. They will also ensure that damaged or defective fire extinguishers are removed from service and replaced. Also, they will

ensure that monthly and annual testing and maintenance is performed on the portable fire extinguishers. Records of inspections and testing shall be maintained and retained by the supervisor.

### *Employees*

Employees are responsible for reporting fire hazards to their supervisors. Actual fires will be reported immediately to the local fire department before any attempts are made to extinguish the fire. Employees will not attempt to extinguish fires beyond the incipient stage.

## **Glossary**

### **Class A Fires**

Fires that involve ordinary combustible solids or "surface burning fires." Examples of Class A fires include wood, clothing, plastics, paper, and asphalt.

### **Class B Fires**

Fires that involve gases, greases, and flammable, combustible liquids. Examples of Class B Fires include gasoline, kerosene, alcohol, and lubricating oils and greases.

### **Class C Fires**

Fires that involve electrical circuits of electrical equipment or fires near such equipment. Examples of Class C fires include electrical motors, switch boxes, junction boxes, transformers, and energized or live wires.

### **Class D Fires**

Fires that involve combustible metals which require special fire tactics and extinguishing agents. Class D fires include metals such as magnesium, potassium, powdered aluminum, zinc, sodium, and titanium.

## **Fixed Extinguishing System**

A permanently installed system that either extinguishes or controls a fire within the area.

## **Halon**

A colorless electrically nonconductive gas that is a medium for extinguishing fires by inhibiting the chemical chain reaction of fuel and oxygen.

## **Hydrostatic Testing**

Testing performed on fire extinguisher cylinders to check the integrity of the cylinders.

## **Incipient Fires**

Fires which are in the initial or beginning stage and which can be controlled or extinguished by portable fire extinguishers, standpipe or small hose system without the need for protective clothing or breathing apparatus.

## **Inspection**

A visual check of fire protection systems and equipment to ensure that they are in place, charged, and ready for use in the event of a fire.

## **Sprinkler System**

A fire protection system with overhead discharge nozzles installed in a systematic the pattern that ejects an extinguishing medium from ceiling to floor level.

## **Types of Fire Extinguishers**

Class A Fire Extinguishers - Use on ordinary combustibles or fibrous material, such as wood, paper, cloth, rubber, and some plastics. Travel distance for employees to any extinguisher is 75 feet (22.9 m) or less.

Class B Fire Extinguishers - Use on flammable or combustible liquids such as gasoline, kerosene paint, paint thinners, and propane. Travel distance from the Class B hazard area to any extinguisher is 50 feet (15.2 m) or less.

Class C Fire Extinguishers - Use on energized electrical equipment, such as appliances, switches, panel boxes, and power tools. Travel distance from the Class C hazard area to any extinguishing agent is 50 feet (15.2 m) or less.

Class D Fire Extinguishers - Use on combustible metals, such as magnesium, titanium, potassium, and sodium. Travel distance from the combustible metal working area to any extinguishing agent is 75 feet (22.9 m) or less.

## **Labeling of Fire Extinguishers**

All fire extinguishers used by HCS will be labeled in accordance with NFPA 10, Standard for Portable Fire Extinguishers. Locations, where fire extinguishers are mounted, will also comply with NFPA 10 for labeling purposes.

## **Portable Fire Extinguishers**

HCS will provide portable fire extinguishers that are:

- Consistent with the hazard
- Properly mounted and located
- Inspected, maintained, and tested

Portable fire extinguishers will be selected and distributed based on the classes of anticipated fires, and the size and degree of hazard. Most fires in HCS operations will include materials found in Classes A, B, and C. Thus, the most common type of extinguisher HCS will provide will be designed to effectively suppress these particular conditions. However, fire extinguishers for Class D fires will be provided when hazards associated with Class D fires exist. Halon fire extinguishers will be provided to extinguish Class C fires involving computers and related equipment.

Portable fire extinguishers will be mounted conspicuously, located, and identified, so they are readily accessible. Extinguisher locations will be carefully selected to ensure extinguishers are adequately spaced and are not in danger of being damaged by vehicles, weather, or storage materials.

Employees will be informed of the location of fire extinguishers. Extinguishers will be visible from a distance of at least 3 feet. Wall markings for fire extinguisher locations will be visible from a distance of at least 25 feet. They shall be located along normal paths of travel, including exits from an area. All paths to fire extinguishers must remain clear to provide easy access.

Portable fire extinguishers shall be visually inspected monthly to ensure they are charged and operable. They are to be recharged after use or pressure leakage. Fire extinguishers will be equipped with an inspection tag, and the inspector must initial and date the tag each month to document the inspection. Tags will be replaced when all lines are used or when tags are lost or removed.

Any extinguisher that shows excessive wear, damage or unserviceable condition will be removed from service and replaced by an operable extinguisher. Fire extinguisher maintenance will be performed at least annually by an approved contractor or trained HCS personnel.

During any period when an extinguisher is removed from service for testing, another extinguisher must replace the extinguisher out for testing. Annual inspection records will be maintained for review by regulatory agencies and internal audit purposes.

### **Water Extinguishing Sprinkler Systems**

Water extinguishing systems are fixed extinguishing systems used in areas requiring a higher degree of fire protection than is provided by fire extinguishers. These are heat-activated systems with automatic water supplies, and overhead ceiling mounted sprinklers. Upon being activated, these water-extinguishing systems discharge water over the fire area. Water extinguishing systems will be inspected annually by an approved outside contractor to ensure their operation is sufficient.

### **Fire Alarms and Alarms for Sprinkler Systems**

Facilities in areas where municipal fire departments are available may have an alarm box located in the building. Other facilities, which may contain several buildings, may have auxiliary alarm boxes connected to the municipal fire alarm system at various points in the facility.

Water sprinkler and halon systems will be equipped with an audible alarm designed to alert employees that the systems have been activated. Water sprinkler system alarms can be activated either by the heat detection system or by the flow of water through the sprinkler. Therefore, the alarm will sound approximately the same time water is discharged from the sprinklers.

Halon systems will have a pre-discharge alarm capable of being perceived above noise levels. This audible alarm will sound in time for all employees to safely exit the discharge area before the system discharge. Additionally, this audible alarm should continue after the halon discharge until positive action has been taken to acknowledge the alarm.

### **Training**

Employees will be trained on the general principles of fire protection upon initial employment and annually after that. Training will consist of:

1. Classification, Ratings, and Performance of Fire Extinguishers
2. Classification of Hazards
3. Purpose of Hydrostatic Testing of Fire Extinguishers How Water Systems work
4. How CO2 and Halon Extinguishing Systems Operate
5. Location of Fire Exits and Escape Routes
6. Use of Fire Extinguishers
7. Purpose and Typical Operations of Alarm Systems

Additionally, supervisors or designated employees will be trained in:

- Selection and Distribution of Extinguishers
- Inspection, Maintenance, and Recharging of Extinguishers



## Section 15 - Bloodborne Pathogens

### Regulation

OSHA 29 CFR 1910.1030

### Purpose

HCS is committed to providing a safe and healthful work environment for our employees. The following Exposure Control Plan (ECP) is provided to eliminate or minimize occupational exposure to bloodborne pathogens in accordance with OSHA standard 29 CFR 1910.1030, "Occupational Exposure to Bloodborne Pathogens."

The ECP is a key document to assist our firm in implementing and ensuring compliance with the standard, thereby protecting our employees. This ECP includes:

1. Determination of employee exposure
2. Implementation of various methods of exposure control, including:
  - a. Universal precautions
  - b. Engineering and work practice controls
  - c. Personal protective equipment
  - d. Housekeeping
3. Hepatitis B vaccination
4. Post-exposure evaluation and follow-up
5. Communication of hazards to employees and training
6. Recordkeeping
7. Procedures for evaluating circumstances surrounding an exposure incident

### Access to Exposure Control Plan (ECP)

HCS's exposure plan is accessible to all of our employees at any given time. The employees should ask their immediate supervisor for access.

### Plan Review and Update

HCS's ECP will be reviewed and updated at least annually and whenever necessary to reflect new procedures which affect occupational exposure.

### Universal Precautions

HCS employees will observe to prevent contact with blood or other potentially infectious materials. In circumstances where body fluids types are hard to differentiate, employees will consider all these fluids potentially infectious.

### Engineering and Work Practice Controls

Engineering controls and work practice controls will be used to eliminate or minimize exposure to bloodborne pathogens. The specific engineering controls and work practice controls used are listed below:

#### *Engineering Controls:*

1. Hand washing stations shall be readily accessible for all employees
2. Hand washing stations are not feasible HCS will provide either appropriate antiseptic hand cleanser along with cloth/paper towels or antiseptic towelettes.

3. Contaminated reusable sharps containers will be puncture-resistant, color-coded or labeled with biohazard label, and leak-proof on both sides and bottom.

#### *Work Practice Controls:*

1. Once the removal of contaminated gloves or personal protective equipment (PPE), employees should wash their hands immediately, or as soon as feasible.
2. Employees should wash their hands and any other exposed skin with soap and water as soon as possible when contact with coming in contact with blood or any other infectious items.
3. Employees who have been trained and authorized will be the only ones allowed to handle sharps, sharps containers, and any other potentially sharp and infectious needles or equipment.
4. When there is potential exposure in the work area, eating, drinking, applying make-up or lip balm and handling contacts shall not be allowed.
5. Where there is potential infectious exposure, no food and/or drink will be kept in freezers, refrigerators, on countertops or any other storage area.
6. If any environmental surfaces and/or equipment comes in contact with blood or other infectious material shall be cleaned and decontaminated immediately.
7. All blood specimens and any other infectious material must be placed in leak-proof containers for handling, storage and transport to minimize potential contact with other surfaces and employees.
8. If the primary container has outside contamination, then the container needs to be placed inside a secondary container which is leak-proof and properly labeled for handling and storage.
9. Any emergency responder, first aid or other potentially infectious supplies must be disposed of immediately and appropriately after contamination.

#### **Personal Protective Equipment (PPE)**

As a result of a hazard assessment of the work processes, appropriate PPE is being provided to affected employees at no cost to them.

Training is provided to all employees in the use of the appropriate PPE for the tasks or procedures employees will perform.

All employees using PPE must observe the following precautions:

1. Wash hands immediately or as soon as feasible after removal of gloves or other PPE.
2. Remove PPE after it becomes contaminated, and before leaving the work area.
3. Wear appropriate gloves when it can be reasonably anticipated that there may be hand contact with blood and when handling or touching contaminated items or surfaces; replace gloves if torn, punctured, contaminated, or if their ability to function as a barrier is compromised.
4. Never wash or decontaminate disposable gloves for reuse.
5. Wear appropriate face and eye protection when splashes, sprays, spatters, or droplets of blood pose a hazard to the eye, nose, or mouth.
6. All PPE, when removed, shall be placed in an appropriate designated area or container for storage, washing, decontamination or disposal.
7. When deemed necessary, HCS will repair and/or replace PPE as needed to maintain effectiveness.

#### **Housekeeping**

All contaminated work surfaces will be decontaminated after completion of procedures and immediately or as soon as feasible after any spill of blood or other potentially infectious materials, as well as the end of the work shift if the surface may have become contaminated since the last cleaning.



Bins and pails (e.g., wash or emesis basins) are cleaned and decontaminated as soon as feasible after visible contamination.

Broken glassware that may be contaminated is picked up using mechanical means, such as a brush and dustpan.

### **Hepatitis B Vaccination**

An HCS designated person will provide training to employees on hepatitis B vaccinations, addressing the safety, benefits, efficacy, methods of administration, and availability.

The hepatitis B vaccination series is available at no cost after training and within ten working days of initial assignment to employees identified in the exposure determination section of this plan. Vaccination is encouraged unless 1) documentation exists that the employee has previously received the series, 2) antibody testing reveals that the employee is immune, or 3) medical evaluation shows that vaccination is contraindicated.

However, if an employee chooses to decline vaccination, the employee must sign a declination form. Employees who decline may request and obtain the vaccination at a later date at no cost. Documentation of refusal of the vaccination is kept within the Human Resource Department.

### **Post-Exposure Evaluation and Follow-Up**

An immediately available confidential medical evaluation and follow-up will be conducted by a licensed health care professional. Following the initial first aid (clean the wound, flush eyes or other mucous membrane, etc.), the following activities will be performed:

1. Document the routes of exposure and how the exposure occurred.
2. Identify and document the source individual (unless HCS can establish that identification is infeasible or prohibited by state or local law).
3. Obtain consent and make arrangements to have the source individual tested as soon as possible to determine HIV, HCV, and HBV infectivity; a document that the source individual's test results were conveyed to the employee's health care provider.
4. If the source individual is already known to be HIV, HCV, and/or HBV positive, new testing need not be performed.
5. Assure that the exposed employee is provided with the source individual's test results and with information about applicable disclosure laws and regulations concerning the identity and infectious status of the source individual (e.g., laws protecting confidentiality).
6. After obtaining consent, collect exposed employee's blood as soon as feasible after an exposure incident, and test blood for HBV and HIV serological status.
7. If the employee does not give consent for HIV serological testing during the collection of blood for baseline testing, preserve the baseline blood sample for at least 90 days; if the exposed employee elects to have the baseline sample tested during this waiting period, perform testing as soon as feasible.
8. Evaluation of reported illnesses.

Following the medical evaluation, a copy of the health care professional's Written Opinion will be obtained and provided to the employee. It will be limited to whether the employee requires the hepatitis vaccine and whether the vaccine was administered.

### **Administration of Post-Exposure Evaluation and Follow-Up**

HCS will ensure that health care professional(s) responsible for employee's hepatitis B vaccination and post-exposure evaluation and follow-up are given a copy of OSHA's bloodborne pathogens standard.

Ensures that the health care professional evaluating an employee after an exposure incident receives the following:

1. A description of the employee's job duties relevant to the exposure incident
2. Route(s) of exposure
3. Circumstances of exposure
4. If possible, the results of the source individual's blood test
5. Relevant employee medical records, including vaccination status

Will provide the employee with a copy of the evaluating health care professional's written opinion within 15 days after completion of the evaluation.

### **Procedures for Evaluating the Circumstances Surrounding an Exposure Incident**

An HCS designated person will review the circumstances of all exposure incidents to determine:

1. Engineering controls in use at the time
2. Work practices followed
3. A description of the device being used (including type and brand)
4. Protective equipment or clothing that was used at the time of the exposure incident (gloves, eye shields, etc.)
5. Location of the incident
6. Procedure being performed when the incident occurred
7. Employee's training

An HCS designated person will record all percutaneous injuries from contaminated sharps in the Sharps Injury Log (if, applicable). If it is determined that revisions need to be made to the ECP, an HCS designated person will ensure that appropriate changes are made.

### **Employee Training**

All employees who have occupational exposure to bloodborne pathogens receive training conducted by HCS's designated person.

All employees who have occupational exposure to bloodborne pathogens receive training on the epidemiology, symptoms, and transmission of bloodborne pathogen diseases.

Also, the training program covers, at a minimum, the following elements:

1. A copy and explanation of the standard
2. An explanation of our ECP and how to obtain a copy
3. An explanation of methods to recognize tasks and other activities that may involve exposure to blood including what constitutes an exposure incident
4. An explanation of the use and limitations of engineering controls, work practices, and PPE
5. An explanation of the types, uses, location, removal, handling, decontamination, and disposal of PPE
6. An explanation of the basis for PPE selection
7. Information on the hepatitis b vaccine, including information on its efficacy, safety, method of administration, the benefits of being vaccinated, and that the vaccine will be offered free of charge
8. Information on the appropriate actions to take and persons to contact in an emergency involving blood
9. 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
10. Information on the post-exposure evaluation and follow-up that the employer is required to provide for the employee following an exposure incident
11. An explanation of the signs and labels and/or color coding required by the standard and used at this facility

12. An opportunity for interactive questions and answers with the person conducting the training session.

## **Recordkeeping**

### *Training Records*

Training records are completed for each employee upon completion of training. These documents will be kept for at least three years.

The training records include:

- The dates of the training sessions
- 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

Employee training records are provided upon request to the employee or the employee's authorized representative in a timely manner.

### *Medical Records*

Medical records are maintained for each employee with occupational exposure in accordance with 29 CFR 1910.1020, "Access to Employee Exposure and Medical Records."

An HCS designated person is responsible for the maintenance of the required medical records. These confidential records are kept for at least the duration of employment plus 30 years.

Employee medical records are provided upon request of the employee or to anyone having written consent of the employee in a timely manner. Such requests should be sent to HCS's designated person.

### *OSHA Recordkeeping*

An exposure incident is evaluated to determine if the case meets OSHA's Recordkeeping Requirements (29 CFR 1904). This determination and the recording activities are done by HCS's designated person.

### *Sharps Injury Log*

In addition to the 1904 Recordkeeping Requirements, all percutaneous injuries from contaminated sharps are also recorded in the Sharps Injury Log. All incidences must include at least:

1. The date of the injury
2. The type and brand of the device involved
3. The department or work area where the incident occurred
4. An explanation of how the incident occurred.

This log is reviewed at least annually as part of the annual evaluation of the program and is maintained for at least five years following the end of the calendar year that they cover. If a copy is requested by anyone, it must have any personal identifiers removed from the report.



## Section 16 – Ergonomics

### Regulation

29 CFR 1910.900

### Policy

HCS shall take the necessary steps to prevent or reduce the severity of musculoskeletal disorders (MSD's). The steps to be taken in the Ergonomics program include, but are not limited to, engineering controls, administrative controls, work practice controls, and the provision of personal protective equipment.

### Authority and Responsibility

*Senior Leadership is responsible for:*

1. Scheduling worksite analysis with the employee;
2. Contacting the employee's supervisor to inform him/her of the analysis;
3. Conducting worksite analysis including the collection of baseline information;
4. Taking pictures of or videotape the process, if necessary;
5. Interviewing the injured employee;
6. Compiling a written report with recommendations for corrective action within ten business days of the initial analysis; and
7. Providing training for employees covered under this policy.

*Departments are responsible for:*

1. Ensuring that concerned employees are allowed to obtain a worksite analysis;
2. Following the guidelines for purchasing ergonomic furniture in Ergonomic Furniture Guidelines; and
3. Incurring the cost for personal protective equipment recommended by the HCS safety consultant.

*Employees are responsible for:*

1. Following any recommendations provided by this manual or a designated safety representative while working at the workstation.

### Reporting Procedure

*Known or Suspected Injury*

Known or suspected musculoskeletal disorders shall be reported to the employees immediate supervisor. The employee reporting an MSD shall inform his/her supervisor of the known or suspected injury immediately after the incident and complete an Employee Statement of Injury or Illness – Worker's Compensation form. The supervisor or human resources administrator shall complete a Request for Evaluation and Treatment – Work-Related Illness or Injury form and a Supervisors' First Report – Worker's Compensation Claim of Injury/Illness in accordance with the Accident/Incident Reporting and Investigation Program.

### Worksite Analysis

Worksite analysis identifies problem jobs or job tasks and risk factors associated with them. This essential preliminary step helps employers determine what jobs and workstations are the sources of the greatest problems.

## **Hazard Prevention**

### *Engineering Controls*

Engineering controls are the preferred method of controlling ergonomic stresses since the primary focus of ergonomic hazard abatement is to make the job fit the person, not force the person to fit the job.

The following engineering control principles need to be considered when designing a work station or recommending corrective measures:

1. Workstations shall be designed to accommodate the person who works at a given station and not for an average or typical employee;
2. Workstations shall be designed so that the station can be adjusted easily to accommodate the employee assigned to the station and the equipment used at the station shall be designed for that purpose;
3. The workstation shall also be sized to allow for the full range of movements required to perform assigned tasks;
4. Tasks performed by the employee in the performance of his/her responsibilities shall be designed to prevent extreme postures, repetitive motion, excessive force, and static work; and
5. Tools used in the performance of assigned tasks shall be designed to prevent or reduce chronic muscle contraction; awkward finger, hand and arm positions; repetitive forceful motions; vibration; and excessive gripping, pinching or pressing with the hand and fingers.

### **Administrative Controls**

Administrative controls are changes in the way work in a job is assigned or scheduled that reduce the magnitude, frequency, or duration of exposure to ergonomic risk factors. Examples of administrative controls for MSD hazards include the following:

1. Rotate employees to different tasks. Note: When rotating an employee to a different task, the new task shall use a different group of muscles, tendons, and nerves. Reduce the number of repetitive motions;
2. Job task enlargement;
3. Alternative tasks; and
4. Employer-authorized changes in work pace.

### **Work Practice Controls**

An effective program for ergonomic hazard prevention and control also includes procedures for safe and proper work practices that are understood and followed by managers, supervisors, and employees and include the following:

- Proper work techniques;
- Employee training and conditioning;
- Proper housekeeping.

### **Personal Protective Equipment**

Personal protective equipment such as gloves, padding, clothing, or equipment shall be designed for the intended purpose. If as part of the investigation it is recommended by this manual or a designated safety representative that personal protective equipment is needed, the investigator shall recommend several products. Every effort shall be made to resolve the problems using engineering and administrative controls.

No personal protective equipment shall be purchased without first consulting the HCS Plant Manager, Maintenance Manager, or an immediate supervisor.

No personal protective equipment shall be used by the employee without the employee first being trained in the equipment's use and care.

**Note:** Braces, splints and back belts are not considered personal protective equipment and when used, shall be at the direction and under the supervision of the employee's treating physician.

### **Training**

Senior leadership shall facilitate the training of employees covered by this policy. The curriculum of the training program shall, at a minimum, cover the following:

- Awareness of the common MSD's and their signs and symptoms;
- The importance of reporting MSD's and their signs and symptoms as soon as possible and the consequences of failing to report them early;
- How to report MSD's and their signs and symptoms in the workplace;
- The risk factors, job and work activities associated with MSD hazards; and
- The contents and availability of this policy.

Employees shall be required to participate in on-the-job training and awareness provided by the employee's department.

All training shall be documented by attendance records maintained by HCS leadership or their designated safety consultant.

### **Frequency**

Training shall be provided upon employment and after that when a process changes resulting in an exposure to new ergonomic risk factors or a new process is introduced which has ergonomic risk factors. It may be necessary to retrain an employee as a result of injury.



## **Section 17 – Hearing Protection/Conservation Program**

### **Regulation**

OSHA 29 CFR 1910.95

### **Purpose**

The purpose of HCS's Hearing Conservation Program is to minimize occupational hearing loss by providing hearing protection, training, and annual hearing tests to all employees working in areas or with equipment that have noise levels equal to or exceeding an eight-hour time-weighted average (TWA) sound limit of 85 dBA (decibels measured on the A scale of a sound level meter). All affected departments will maintain a copy of this program. A copy of OSHA's Hearing Conservation Standard, 29 CFR 1910.95, can be obtained from asking the supervisor or HCS's designated person. All affected areas will have a copy of the standard posted.

### **Duties and Responsibilities**

#### *Management/Supervisors*

1. Use engineering and administrative controls to limit employee exposure.
2. Provide adequate hearing protection for employees.
3. Post signs and warnings in all high noise areas.
4. Conduct noise surveys whenever a change in production, process, equipment, or controls increases noise exposures to workers.
5. Conduct an annual hearing test for all employees.
6. Conduct hearing conservation training for new and all employees.

#### *Employees*

1. Use HCS issued and approved hearing protection in designated high noise areas.
2. Request new hearing protection when needed.
3. Exercise proper care of issued hearing protection.

### **Procedures**

#### *Noise Monitoring*

Monitoring for noise exposure levels will be conducted by HCS's designated person. It is the responsibility of the individual departments to notify the designated person when there is a possible need for monitoring. Monitoring will be performed with the use of calibrated sound level meters and personal noise dosimeters at the discretion of HCS. Monitoring will also be conducted whenever there is a change in equipment, process, or controls that affect the noise levels. This includes the addition or removal of machinery, alteration in building structure, or substitution of new equipment in place of that previously used. The responsible supervisor must inform HCS's designated person when these types of changes are instituted.

### **Employee Training**

Affected employees will be required to attend training concerning the proper usage and wearing of hearing protection. The training will be conducted by an HCS designated person, within a month of hire and annually after that.

Training shall consist of the following components:

1. how noise affects hearing and hearing loss
2. purpose and explanation of audiometric testing

3. test rules and procedures
4. locations of high noise areas within the establishment
5. purpose and how to use and care for hearing protectors
6. Training records will be maintained by HCS's designated person

### **Hearing Protection**

Management, supervisors, and employees shall properly wear the prescribed hearing protection while working or traveling through an area that is designated as a high noise area.

Hearing protection will be provided at no cost to employees who perform tasks designated as having a high noise exposure and replaced as necessary. It is the employee's responsibility to wear hearing protection when noise levels reach or exceed 85 dBA. Management will supervise the proper use of hearing protection. Employees will have the opportunity to choose from a variety of suitable hearing protectors provided by the employer.

Personal stereo headsets, or "iPods," are not approved for hearing protection and are not permitted in any operating area of the establishment.

Signage will be posted in areas that necessitate hearing protection. An HCS designated person will provide signage in the appropriate areas.

Preformed earplugs and earmuffs should be washed periodically and stored in a clean area. Foam inserts should be discarded after each use. Hands should be washed before handling preformed earplugs and foam inserts to prevent contaminants from entering the ear.

An HCS designated person will keep a log of the areas or job tasks designated as requiring hearing protection, as well as the person affected by this Hearing Conservation Program.

Hearing Protection shall be worn by an employee:

1. Whose exposure is at or above an 8-hour TWA of 90 dBA; or
2. Who is exposed to an 8-hour TWA of 85 dBA or greater and who have not had a baseline audiogram established; or
3. Who has experienced an STS (Standard Threshold Shift)?

### **Audiograms/Hearing Tests**

Employees subject to the Hearing Conservation Program who have time-weighted average (TWA) noise exposures of 85 dBA or greater for an eight (8) hour work shift will be required to have both a baseline and annual audiogram. The audiograms will be provided by and conducted by a third-party vendor with no cost to the employee.

The baseline audiogram will be given to an employee within six (6) months of employment with and before any exposure to high noise levels. Annual audiograms will be performed within one year from the date of the previous audiogram. An HCS designated person will schedule the annual audiogram.

If an annual audiogram shows that an employee has suffered a standard threshold shift, the employee will be retested within thirty (30) days of the annual audiogram. If the retest confirms the occurrence of a standard threshold shift, the employee will be notified in writing within twenty-one (21) days of the confirmation. Employees who do experience a standard threshold shift will be refitted with hearing protection and provided more training on the effects of noise.

### **Recordkeeping**



Accurate records shall be maintained of all employee exposure measurements required (noise measurements, audiometric tests, training)

Noise measurement records shall be retained for two years; audiometric test records shall be retained for the duration of the affected employee's employment.



## Section 18 – Driving and Fleet Safety

### Purpose

This document provides guidelines and procedures for employees who operate HCS vehicles. The program applies to all entities, including subsidiaries, affiliates, and operating units.

The guidelines and activities outlined in this program have been implemented to help prevent as well as reduce injuries, suffering, and needless waste associated with vehicle accidents.

### Scope and Application

Ensure that all HCS vehicle drivers have a clear and consistent understanding of the policies and procedures related to this program. The program will provide fleet drivers with safety, maintenance, and operating standards.

All vehicles will be purchased by an HCS designated person. HCS vehicles will only be assigned to employees who have been authorized to operate a vehicle. HCS vehicles should be used instead of personal vehicles for business whenever possible. The day-to-day operations are handled in the Fleet Department, as vehicles that are used for business can be placed in the following categories:

1. **Fleet** – A fleet vehicle is one that is assigned to an employee for both business and personal use.
2. **Pool** – A pool vehicle is one that is available for temporary assignment to employees for a business.
3. **Rental** – A rental vehicle is one that is rented when a fleet or pool vehicle is either not available or is not the most economical alternative.

### Responsibilities

An HCS designated person will oversee HCS's Fleet Safety Program and related operations. Responsibilities include:

1. Administering the program and evaluating its effectiveness.
2. Obtain a copy of the driver's license.
3. Checking the Motor Vehicle Reports (MVR's) on all employees, their spouses, and/or authorized family member, who are assigned or maybe using HCS vehicles, pool vehicles, and rental vehicles. MVR's will be reviewed on an annual basis.
4. Bring to the attention of the Driver Safety Committee, all MVR records falling outside of established guidelines.
5. Provide driver orientation, training, and remedial training as necessary with verification.
6. Issue vehicle upon receiving the approved form.
7. Ensure maintenance and inspections of HCS vehicles are being completed as required.
8. Provide Certificates of Insurance for all HCS owned vehicles as needed.
9. Actively be involved with accident investigation and analyzing fleet loss exposure.
10. Provide updates periodically on safe driving tips to employees.
11. Administer recognition and disciplinary programs.

The driver will be responsible for:

1. Vehicle and keeping up all maintenance up to date and scheduled as per fleet manager.
2. Safety of the cargo and passengers.
3. The safety of pedestrians and other motorists.
4. Following guidelines after being involved in an accident.
5. I am providing the Fleet Manager with the appropriate information so that an MVR can be ordered and reviewed for the employee and an authorized family member.

### **Policies, Procedures, & Rules**

No phase of operations or administration is of greater importance than accident prevention.

Highlighted below are some of our policies, procedures, and rules governing the use of the fleet, pool, and rental vehicle:

1. No unauthorized person will drive HCS vehicles. All persons who drive HCS vehicles will be required to complete the driver selection procedures.
2. Use of seatbelts is required for all drivers and their passengers when in a fleet, pool, or rental vehicle.
3. Operation of a vehicle while under the influence of alcohol, illegal drugs, or a combination of the two is strictly prohibited.
4. Drivers will follow all applicable State/Federal regulations and traffic laws. Follow the posted speed limit and buckle up.
5. Obey all traffic signs and signals with a full and complete stop.
6. All drivers are responsible for checking their vehicles for serious mechanical defects every day. If a problem is found, immediately report any unsafe conditions or vehicle problems to an HCS designated person. Vehicles with problems that could affect the safe operation and will not be driven until mechanical issue is corrected.
7. Accidents are to be reported immediately immediate supervisor and/or HCS designated person. Accident investigation forms are to be completed by the driver at the scene of the accident.
8. No unauthorized passengers are permitted to ride in an HCS pool or rental vehicle.
9. Do not leave keys in your vehicle, and secure properly when not in use.
10. Maintain reasonable distance; allow for speed, road, and weather conditions.
11. Tailgating will not be tolerated.
12. Signal well in advance of turning, changing lanes, or stopping.
13. Reverse and change lanes only when necessary.
14. Use the inside lane only when necessary.
15. Never contest the right-of-way. Always yield to avoid a collision.
16. Adjust for others merging into the traffic flow.
17. Merge into traffic without forcing yourself in.
18. Do not pass any vehicles at intersections, railroad crossings, or where your vision may be limited.
19. Tickets and moving vehicle violations are to be reported to immediate supervisor and/or an HCS designated person.

### **Driver Eligibility**

#### *Driving History*

Before an employee can be approved to drive a fleet, pool, or rental vehicle for the first time, he/she must provide the HCS designated person with the following information on themselves:

1. A photocopy of his/her current driver's license.
2. Current insurance card.
3. A list of all his/her traffic violations and accidents within the past three years.
4. Any other information deemed necessary.

During the course of employment, if a driver has his/her driver's license revoked or suspended for any reason, he/she must notify HCS's designated person immediately. The HCS designated person shall be responsible for obtaining MVR's on all regular drivers on an annual basis.

### ***Limitations on Use of Company Vehicles***

Operation of an HCS vehicle is restricted to the assigned driver. The vehicle can be used for personal use as outlined in the driver manual.

If a driver violates this policy, or if his/her MVR denotes one or more of the items listed below, the HCS designated person and management team will review if the driver should continue to drive a vehicle for conducting HCS business and to recommend, if necessary, disciplinary action.

If any employee who operates an HCS vehicle is charged with any of the following offenses, the immediate supervisor and/or HCS designated person must be notified immediately:

#### ***Offenses:***

1. Driving while intoxicated or under the influence of drugs.
2. Failure to stop and report when involved in an accident.
3. Homicide or assault resulting from the operation of a vehicle.
4. Driving with a suspended or revoked license.
5. Reckless driving.

An HCS designated person and management team will review each offense case by case.

### ***Driving Restrictions***

The driver should not drive a vehicle for business if one or more of the following conditions exist:

1. He/she is physically or mentally impaired to a level that would reduce his/her capability to operate a motor vehicle at a safe level (impairments may include but are not limited to, a severe heart condition, poor eyesight, a history of mental disorders, or use of a prescription drug that would adversely impact his/her ability to drive).
2. The vehicle is in an unsafe operating condition.
3. Traveling is unsafe due to severe weather conditions.

### ***Traffic Citations***

Since the vehicles are registered in the name of HCS, it is very important that these vehicles are not ticketed for overtime parking or other traffic violations. Any fines for such traffic violations must be paid by you the driver and are not to be submitted for reimbursement on your monthly expense report. These fines should be paid immediately to avoid situations in which the Police Department finds it necessary to bill HCS directly.

### ***Employees Using Their Own Car for Company Business***

Only authorized persons are to be passengers in a vehicle while conducting company business during normal business hours.

All employees using their personal car regularly for company business shall provide a Certificate of Insurance to the HCS designated person, and carry a minimum coverage combined single limit coverage (bodily injury and property damage).

A copy of each employee's driver license should be obtained, and his/her MVR reviewed.

### ***Driver Training***

Driver training is crucial to the success of our objective. Although we will attempt to hire only quality, experienced drivers, drivers training will still be completed. The training will consist of:

1. *Orientation*

When a driver is hired, a complete orientation will be done. The driving orientation includes the following:

- a. Review of the Fleet Safety Program and Fleet Driver Manual.
- b. Discussion of maintenance requirements.

## 2. *Defensive Driving*

Periodic training in the principles of defensive driving will be required for all drivers of HCS vehicles. Drivers are expected to attend training courses as scheduled.

## 3. *Periodic Specific Training*

As seasons change road conditions change. HCS will have specific training on seasonal hazard such as winter driving. Training will be provided via video, flyer, or speaker for all drivers presented with such hazards.

All employee training records will be kept on file.

## **Cellular Phone Use**

Do not place calls while the vehicle is moving. Evaluate road and traffic conditions when a call is received and take one for the following actions:

1. Do not answer the call if traffic is heavy.
2. Allow voicemail to answer the call.
3. If traffic is light, take the call but stop and park safely as soon as possible.
4. Do not take notes while driving.

## **Garaging and Storage**

If you have a garage, you are expected to park your fleet vehicle in it without charge to HCS. If a garage is not available, overnight parking should be off-street in a private driveway or parking area adjacent to your home.

## **Accident Investigation Process**

In the event of an Accident:

1. Whenever an employee is in an accident, that employee should report the accident to the police and request or obtain a copy of the accident report from the investigating officer. Then notify your immediate supervisor and the HCS designated person.
2. Call emergency services if there is anyone injured in the accident. Render care if possible, and only if you are appropriately trained.
3. If a minor accident, move your vehicle out of traffic flow. Otherwise, turn off the vehicle and remove the keys.
4. Never admit fault to an accident. Be cordial and polite.
5. Obtain key driver information if another vehicle is involved. Obtain the name of other driver(s), company if applicable, passenger name(s), license number, name of insurance and policy number if applicable. Provide the necessary information to the other driver regarding your name, company, and insurance.
6. Complete the accident form located in the glove box of the vehicle, and fill in all applicable blanks, complete with diagram.
7. Take photographs of the accident scene from different angles.
8. Provide copies of the accident form to the HCS designated person for distribution and review.
9. Accidents will be investigated, and accident forms reviewed by the HCS designated person and management team. This team will determine if preventable or not, along with the root cause of the accident. The main objective of the review of this review team is to improve the overall effectiveness of the fleet safety program. Some of the items to be considered when completing the accident investigation and review are:
  - a. Driver condition
  - b. Adverse driving condition
  - c. Road conditions
  - d. Scheduling (hours behind the wheel)

- e. Vehicle maintenance
- f. Driver training
- g. Other vehicle issues

### **Vehicle Maintenance**

A vehicle maintained in a safe operating condition is one key to accident prevention. Drivers with assigned vehicles are required to have their vehicle serviced and maintained according to the schedules provided within the vehicle maintenance book and the driver manual.

Drivers assigned to specific vehicles will be required to conduct vehicle inspections periodically, to determine if such items as (headlights, horns, back-up lights, turn signals, tires, brakes, and windshield wipers) are working properly, and do not pose a safety threat.

**COMPANY VEHICLES ARE A PRIVILEGE. TREAT THEM AS IF THEY WERE YOUR OWN!**

**REMEMBER** – No job is so important, and no service is so urgent that we cannot take the time to drive safely.



## Section 19 – Lifting Safety Program

### Regulation

General Duty Clause 28 CFR 1910

### Purpose

The purpose of HCS's Proper Lifting Program is to apply ergonomic principles and sound decision-making to the workplace in an effort to reduce the number of manual lifts thus decreasing workplace injuries and, where possible, increasing productivity, quality, and efficiency.

All employees are required to follow the minimum procedures outlined in this program. Any deviations from this program must be immediately brought to the attention of senior leadership.

### Scope and Application

It is the scope of this policy that all employees whose job duties involve lifting will receive proper training in lifting techniques. It is also the policy that employees will be provided with proper education regarding the mechanics of the back and measures that can be taken to protect the back from injury. HCS requires the procedures in this plan to be followed to provide a safe work environment. These procedures on safe lifting practices have been implemented to ensure that employees are trained to protect themselves from the hazards of improper lifting practices.

### Responsibilities

#### *Management*

The duties of Management is as follows:

1. Conduct a hazard assessment. Identify affected employees/departments.
2. Review workers' compensation claims and OSHA 300 logs for back-related loss trends.
3. Become familiar with HCS's Personal Protective Equipment (PPE) Program.
4. Identify the need for Personal Protective Equipment (PPE)
5. Identify alternative materials handling the equipment.
6. Conduct and/or organize training sessions.
7. Evaluate the written program.

#### *Supervisors/Foreman*

1. Identify job duties that include heavy lifting.
2. Instill general safety awareness as it relates to back safety.
3. Identify and eliminate, when possible, job hazards.
4. Train new employees, whose job responsibilities include lifting, on proper lifting techniques. Periodically (at least annually) conduct refresher training.
5. Provide an overview of back safety for all employees.
6. Ensure that all employees understand that if an item is too heavy, they should ask for help.
7. Provide appropriate Personal Protective Equipment (PPE), as needed.
8. Provide alternative materials handling equipment, as needed.
9. Initiate appropriate disciplinary action when an employee does not follow the safety requirements of HCS.

### *Employee*

1. Use two-wheeled trucks, four-wheeled carts, roller conveyors, pallet jacks, or any other material handling equipment in the manner established by managers and supervisors.
2. Ensure that equipment is properly maintained in good condition and when not, report it immediately.
3. Provide feedback to managers and supervisors regarding the effectiveness of design changes, new tools, or equipment.
4. Attend training as required and apply the knowledge and skills acquired during training to their jobs, tasks, processes, and work activities.
5. Use proper lifting and material handling techniques, as outlined in this policy.
6. Limit manual lifting or handling tasks to objects less than 50 pounds.
7. Get assistance whenever manually handling or lifting materials that are 50 pounds or greater.

### **Material Handling Equipment**

Additional tools and equipment are required when lifting or handling material weighing over 50 pounds. Manual material handling equipment should be used only for its designed task and maintained in good condition. The manual material handling equipment includes the following:

1. **Two-Wheel Trucks:** Do not overload these trucks; load a maximum of 200 pounds. Make sure hand trucks are stored in a vertical position when not in use.
2. **Four-Wheel Carts:** Load material evenly on carts to prevent tipping and view obstruction. Push rather than pull carts, unless specially designed to be pulled.
3. **Roller Conveyor:** Keep hands and feet away from pinch points and make sure that rollers extend beyond the load.
4. **Pallet Jacks - manual or powered:** Use a jack properly rated for the load. Place the jack on a level, stable, and clean surface. Avoid metal-to-metal contact by using wooden shims.

### *Housekeeping*

Material handling and storage areas must be kept free of excess materials that create hazards (i.e., fire, explosions, slips, trips, or infestation by insects or rodents.).

### *Aisles and Passageways*

Where mechanical handling equipment is used, 10-foot safe clearances shall be allowed for aisles, at loading docks, through doorways, and wherever turns or passage must be made. Aisles and passageways shall be kept clear and in good repair, with no obstruction across or in aisles that could create a hazard.

Permanent aisles and passageways should be marked with yellow lines. Clearance signs and warning of clearance limits are posted throughout the facility where headroom is below 10 feet. All equipment is marked indicating the working load it will safely support. Do not overload any piece of equipment.

### **Hazard Assessment**

A hazard assessment will be conducted to determine the job duties that require lifting or material handling. Employees will be identified and documented and then trained on proper lifting techniques and alternative handling equipment.

### **Back Safety Techniques**

1. Sizing the Load – Do Not Manually Lift Heavy Objects.
2. Before even attempting to lift an object, it is important to size up the load. Determine if the load is light enough to lift. If the load is too heavy, try to do the following:
  - a. Make objects smaller.
  - b. Use smaller containers.
  - c. Use lighter containers.



- d. Lighten the loads in containers.
3. If the size and weight of the load cannot be reduced, it must be determined if a team lift or lifting device is necessary.
4. Reaching – Try to Not Reach Above Shoulders.
5. Reaching for objects, especially in high places, can strain the back. Some back safety techniques to use are:
  - a. Reach only as high as your shoulders.
  - b. Use an approved stool or stepladder if needing to get closer to the load.
6. Test the weight of the load by pushing up on a corner before lifting. If it's too heavy, get help.
7. Bending – Do Not Bend Over from the Waist.
8. When bending down to reach or lift, move the whole body to protect the back. Some back safety techniques to use are:
  - a. Bend the knees and hips, not the back.
  - b. Kneel on one knee, if necessary.
  - c. Get as close to the object as possible so you will not have to reach with your arms
9. Lifting – Do Not Use Back to Bend
10. Lifting is one of the most common causes of back injuries. Below are some back safety techniques to use:
  - a. Size up the load - if it seems like more than you can handle, get help.
  - b. Face the load squarely.
  - c. Get a firm footing.
  - d. Tighten your abdominal muscles to support your back when you lift.
  - e. Bend your knees and get a grip on the load.
  - f. Lift with your legs – not your back.
  - g. Lift gradually, not suddenly.
  - h. Keep the load close to your body.
  - i. Do not twist while lifting.

### **Push – Do Not Pull**

Pulling large objects can be as hard on the back as lifting. Instead, push the load. Some back safety techniques to use are:

1. Stay close to the load, without leaning forward.
2. Tighten your stomach muscles as you push.
3. Push with both arms, keeping your elbows bent.
4. Turn – Do Not Twist the Back.

For some tasks, such as turning a large valve, you may be tempted to twist. Some back safety techniques to use are:

1. Get close to the object.
2. Kneel down on one knee, if necessary.
3. Position yourself, so you are stable.
4. Use arms and legs to do the work – not just the back.

### **Employee Training**

Training is intended to enhance the ability of managers, supervisors, and employees to recognize work-related material handling risk factors and to understand and apply appropriate control strategies. Training in the recognition and control of these risk factors will be given as follows:

1. To all new employees during orientation.
2. To all employees assuming a new job assignment requiring manual material handling.
3. When new jobs, tasks, tools, equipment, machinery, workstations or processes are introduced.
4. When high exposure risk factors have been identified.

The minimum training requirements for all managers, supervisors and employees will include the following elements:

1. An explanation of HCS's material handling program and their role in the program.
2. Knowledge of job tasks that require manual material handling.
3. An understanding of the basics of ergonomics.
4. The methods used by HCS to minimize work-related risk factors.

Training should include the following topics:

Mechanical aids for carrying or moving loads are to be used whenever possible to minimize manual material handling. These mechanical aids include hand trucks, carts, dollies, rolling conveyors, wheelbarrows, etc. When designing or modifying storage areas, store heavy items on shelves between knee and shoulder level and avoid storing items on the floor. Also, lighter items should be stored on top shelves. Whenever possible, decrease the object container size, change container shape and/or add handles to aid in handling.

Even when mechanical aids are used to move materials, some lifting cannot be avoided. Before you lift, remember the following:

1. Use manual material handling devices (hand dollies, carts, lift tables, forklifts) where defined by HCS and wherever possible in all other situations.
2. Wear supportive shoes.
3. When possible, push and pull rather than lift and lower.
4. Reduce the size of the material to keep it light, compact and easy to grasp.
5. Try to have most workplace deliveries placed at hip height.
6. Always keep objects in the comfort zone (between hip and shoulder height).
7. Keep all loads close to and in front of the body.
8. Keep the back aligned while lifting.
9. Keep elbows near 90 degrees.
10. Avoid slopes.
11. Avoid uneven floors.
12. Maintain the center of balance.
13. Let the legs do the actual lifting.
14. Decide on the route to take.
15. Check the route for any problems or obstacles such as slippery or cluttered floors.

Unloading objects should be done the same way as loading objects, but in the reverse order as follows:

1. Slowly bend your knees to lower the load.
2. Keep your back straight and the weight close to the center of your body.
3. Allow enough room for fingers and toes when the load is set down.
4. Place the load on a bench or table by resting it on the edge and pushing it forward with your arms and body.
5. Secure the load to ensure that it will not fall, tip over, roll, or block someone's way.

One-arm loads are used when carrying items such as pails or buckets. Lifting and carrying one-arm loads should be performed as follows:

1. Bend at the knees and waist, keeping your back straight.
2. Reach for the load.
3. Grasp the handle of the load firmly.
4. Lift with your legs, not your shoulders, and upper back.
5. Keep your shoulders level while switching hands regularly to reduce overexerting one side of the body.

Team lifts are used when objects are too heavy, too large or too awkward for one person to lift. Team lifts should be performed as follows:

1. Work with someone of similar build and height, if possible.
2. Choose one person to direct the lift.
3. Lift with your legs and raise the load to the desired level at the same time.
4. Always keep the load at the same level while carrying.
5. Move smoothly and in unison.
6. Set the load down together.

Overhead loads should be eliminated if possible, but if necessary, should be conducted as follows:

1. When lifting or lowering objects from above the shoulders, lighten the load whenever possible.
2. Stand on something sturdy such as a step stool or platform to decrease the vertical distance.
3. When lowering objects from above the shoulders, grasp the object firmly, bring the load as close to your body as possible, slide it down slowly and proceed with your move.

### **Record keeping**

An HCS designated person is responsible for maintaining the training records. Training records will be filled out for each employee upon completion of training. These documents will be kept for at least three years and will include:

1. The date of the training session.
2. The contents or summary of the training session.
3. The names and qualifications of the person(s) conducting the training.
4. The names and job titles of all persons attending the training session.
5. Training records will be provided upon request to the employee or the employee's authorized representative within 15 working days of the request.



## **Section 20 – Personal Protective Equipment**

### **Regulation**

OSHA 29 CFR 1910.132

### **Purpose**

The Personal Protective Equipment (PPE) program purpose is to outline the procedures for proper use, care, and maintaining all PPE which is required to be used by employees for the prevention of having an injury.

### **Scope and Application**

This policy applies to all HCS employees who by nature of their job function have the potential to be exposed to chemical, physical, radiological or biological hazards which can cause illness, injury or impairment to any part of the body through absorption, inhalation, or physical contact.

### **Responsibility**

#### *Management*

1. Implements the program.
2. Assures hazard assessments have been conducted for each job task within HCS.
3. Assures PPE is selected for each job, as indicated by the hazard assessment.
4. Assigns the proper employee to oversee program which includes training.
5. Assures vendors, contractors, and visitors are provided the proper PPE for the job task.
6. Assures all worn or disposable PPE is replaced as soon as possible.
7. Assures all employees use the PPE properly.

### **Managers**

1. Conducts the hazard assessments to determine exposure controls and selection of PPE.
2. Trains and retrains employees on proper use and requirements for PPE.
3. Trains all contractors, vendors and visitors on PPE use and requirements.
4. Perform other job duties as determined by management.

### **Supervisors/Foreman/Managers**

1. Responsible for training employees on hazards and how to properly use PPE.
2. Will update employees if any hazards have changed and if additional PPE is required.
3. Inspect all PPE for excessive wear and tear, which would include holes, tears, etc.
4. Enforce PPE proper use and retrain when necessary.

#### *Employees*

1. Must wear proper PPE at all times as outlined in the hazard assessment, in all required work areas, and according to the manufacturer's instructions.
2. Must inspect PPE regularly for excessive wear and tear.
3. Must clean and dispose of PPE per the manufacturer's instructions.
4. Report any issues with PPE immediately to their supervisor/manager.

#### *Vendors*

Must be trained on PPE requirements and proper use before entering the facility.  
Must wear PPE as required by HCS's PPE policy.

If contractors/vendors provide and use their own PPE, the employer is responsible for ensuring the PPE is properly inspected and is appropriate for the hazard.

## **Procedure**

### *Hazard Assessment*

Hazard Assessments will be conducted by HCS appointed personnel. These assessments will be conducted for each job task within the facility.

The hazard assessment is based on the PPE hazard assessment and potential hazards within the facility.

Safe and appropriate PPE is selected for each job task.

Hazard assessment for each job task within the facility will be conducted annually after the initial assessment.

## **Specific PPE**

### *Hand Protection*

- Hand protection shall be worn when hands are exposed to hazards such as those from skin absorption of harmful substances, severe cuts or lacerations, severe abrasions, punctures, chemical burns, thermal burns, and harmful temperature extremes.
- The type of hand protection used shall be based on the performance characteristics of the hand protection relative to the task(s) to be performed, conditions present, duration of use, and the hazards or potential hazards identified.
- Gloves need to be inspected regularly by employees and supervisors/managers before using.
- Gloves need to be replaced when worn and do not provide proper protection. (i.e., holes)
- Disposable gloves may not be reused.

With respect to the selection of gloves for protection against chemical hazards:

- The toxic properties of the chemical(s) must be determined; in particular, the ability of the chemical to cause local effects on the skin and/or to pass through the skin and cause systemic effects
- Generally, any chemical resistant glove can be used for dry powders
- For mixtures and formulated products (unless specific test data are available), a glove shall be selected based on the chemical component with the shortest breakthrough time since solvents can carry active ingredients through polymeric (a chemical compound or mixture of compounds formed by polymerization and consisting essentially of repeating structural units) materials
- Employees shall be able to remove the gloves in such a manner as to prevent skin contamination

Gloves shall be removed before touching public objects such as telephones, elevator buttons, or door handles to avoid cross-contamination.

## **Head Protection**

Head protection shall be worn in areas where there is a potential for injury to the head from impact, flying or falling objects (e.g., working below other workers who are using tools and materials which could fall through grates), or electrical shock and burns.

Hard hats used for protection against impact and penetration of falling objects shall comply with the "American National Standard for Personal Protection – Protective Headwear for Industrial Workers Requirements" (ANSI) Z89.1.2009. Helmets for protection against electrical shock and burns shall comply with ANSI Z89.2-1971.

Hard hats should be stored in a clean location away for sunlight and extreme temperatures.

If a hard hat is struck by a falling object, it must be replaced even if no physical damage is noticeable.

### **Eye/Face Protection**

Suitable eye protection or face protection shall be worn when there is the potential for exposure to the eyes or face from flying particles, molten metal, chemicals, gases or vapors or potentially injurious light radiation. Side protection is required when there is a hazard potential from flying objects. Detachable side protectors (e.g., clip-on or slide-on shields) meeting the pertinent requirements are acceptable.

Eye protection shall be durable, comfortable, and easy to clean. Persons whose vision requires the use of corrective lenses and who by nature of their job duties require eye protection shall wear goggles or a full-face shield that can be worn over the prescription lenses.

There are four general classes of eye and face protection: safety glasses, face shields, goggles, and welding helmets. The type of protection required shall be determined by the type and degree of the hazard and shall comply with ANSI Z87.1-2010 "American National Standard Practice for Occupational and Educational Eye and Face Protection."

### **Foot Protection**

Foot protection shall be worn when there is the potential for injury to the feet from falling or rolling objects, objects piercing the sole of the foot, electrical hazards, hot surfaces, and slippery surfaces. Foot protection shall comply with ASTM F2412-05 or F2413-05, which supersede ANSI Z41-1999 "American National Standard for Personal Protection – Protective Footwear."

### **See the individual safety program policies for the following:**

- Respirators
- Hearing Protection
- Fall Protection

### **Body Protection**

Full body protection shall be worn when there is a potential for contamination or exposure to other parts of the body (e.g., legs, arms, back, chest) from heat, splashes from hot metals and liquids, impacts, cuts, chemicals, and radiation.

Body protection includes the following:

- Lab coats
- Boot covers
- Aprons
- Bouffant caps
- Tyvek suits
- Coveralls

### **Electrical Protective Devices**

Rubber insulating equipment shall be used/worn to protect employees from shocks/burns while working on "live" electrical systems.

Rubber insulating equipment shall comply with the following American Society for Testing and Materials (ASTM) standards:

- Specification for Rubber Insulating Gloves (D120-87)
- Specification for Rubber Insulating Matting (ASTM D178-93 or D178-88)
- Specification for Rubber Insulating Blankets (ASTM D1048-93 or D1048-88a)
- Specification for Rubber Insulating Covers (ASTM D1049-93 or D1049-88)
- Specification for Rubber Insulating Line Hose (ASTM D1050-90)
- Specification for Rubber Insulating Sleeves (ASTM D1051-87)

All electrical protective equipment shall be subjected to periodic electrical tests conducted in accordance with appropriate voltages identified by ASTM standards to reliably indicate whether the insulating equipment can withstand the voltage involved. Insulating equipment failing to pass inspections or electrical tests shall NOT be used by employees.

Rubber insulating equipment test intervals shall occur as follows:

- Rubber insulating line hoses shall be tested upon indication that the insulating valve is suspect
- Rubber insulating covers shall be tested upon indication that the insulating valve is suspect
- Rubber insulating blankets shall be tested before first issue and every twelve months after that;
- Rubber insulating gloves shall be tested before first issue and every six months thereafter; and
- Rubber insulating sleeves shall be tested before first issue and every twelve months thereafter.

**Note:** If the insulating equipment has been electrically tested but not issued for service, it shall not be placed into service unless it has been electrically tested within the previous twelve months.

All departments using rubber insulating equipment shall make the appropriate arrangements for testing of such equipment.

### **Maintenance Schedules**

PPE shall be inspected, cleaned, and maintained by employees at regular intervals so it can be discarded, changed and/or decontaminated as deemed necessary. At a minimum, all PPE shall be discarded when it has become contaminated, worn, torn or has other integrity problems.

It is important to ensure that contaminated PPE which cannot be decontaminated is disposed of in a manner that protects employees from exposure to hazards while ensuring compliance with appropriate regulations.

**Note:** Inspect PPE before each use for tears, punctures, holes, cuts, cracks, embedded foreign objects, and texture changes (e.g., swelling, softening, hardening, becoming sticky or inelastic).

### **Training**

#### *Initial Training*

- Initial training shall be provided by Management or any designated competent person. Each employee shall be trained in at least the following:
- When and what PPE is necessary
- How to properly don, doff, adjust, and wear PPE
- The limitations of the PPE
- The proper care, maintenance, useful life and disposal of the PPE
- How to replace PPE that is defective or damaged

Each affected employee shall demonstrate an understanding of the aforementioned training and the ability to use PPE properly before being allowed to perform work requiring the use of PPE.

#### *Retraining*

When there is reason to believe that any affected employee who has already been trained does not have the understanding and skill as required above, Management or the affected department

head shall retrain each such employee. Circumstances where retraining is required include, but are not limited to, situations where:

- Changes in the workplace render previous training obsolete
- Changes in the types of PPE to be used render previous training obsolete
- Inadequacies in an affected employee's knowledge or use of assigned PPE indicate that the employee has not retained the requisite understanding or skill

**Recordkeeping**

Management shall verify that each affected employee has received and understood the required training through a written certification containing the name of each employee trained, the date(s) of training and the subject of the certification.





## Section 21 – Hand and Portable Power Tools

### Regulation

OSHA 29 CFR 1910.241- 244

### Purpose

This program outlines HCS guidelines for the operation, maintenance, proper guarding, safety, and training for hand and portable power tools used by all of our employees.

At all times hand and power tools shall be maintained in a safe condition.

### Scope and Application

This program applies to all employees who operate any hand tool and/or power tool while engaged in work inside our facility and/or facilities operated by others.

### Responsibility

*Senior Management* is responsible for:

- Assisting supervisors in identifying hazardous conditions in regard to hand/power tools
- Inspecting areas to ensure that this policy is being adhered to
- Providing safety awareness training when needed

*Department supervisors/foreman* are responsible for:

- Anticipating all work hazards
- Ensuring that all safeguards are utilized
- Working with Senior Management to initiate any necessary administrative action required to enforce safe work practices
- Replacing all damaged tools
- Ensuring that tools are being properly maintained by instituting an inspection program
- Ensuring employees are trained to use tools properly and in accordance with the manufacturer's instructions

*Employees* are responsible for:

- Anticipating all work hazards
- Ensuring that all safeguards are utilized
- Conducting routine inspections to ensure that tools are properly maintained
- Reporting to their supervisor any tool that needs to be replaced
- Following all safety guidelines for the use of hand/power tools and according to the manufacturer's instructions
- Participating in training provided by the department

### General Safety Precautions

Employees who use hand and power tools and who are exposed to the hazards of falling, flying, abrasive and splashing objects, or exposed to harmful dust, fumes, mists, vapors, or gases must be provided with the appropriate equipment needed, including Personal Protective Equipment, to protect them from the hazard. See HCS's Personal Protective Equipment policy.

All hazards involved in the use of power tools can be prevented by following some basic safety rules:

1. Keep all tools in good condition with regular maintenance
2. Use the right tool for the job
3. Examine each tool for damage before use
4. Operate according to the manufacturer's instructions
5. Utilize the proper protective equipment
6. Participate in safety training

### **Hand Tools**

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

Some examples of misuse include the following:

1. Using a screwdriver as a chisel may cause the tip of the screwdriver to break and fly, hitting the user or other employees
2. Using a tool with a wooden handle (e.g., hammer) if the handle is loose, splintered, or cracked, the head of the tool may fly off and strike the user or another worker
3. Using a wrench if its jaws are sprung, because it might slip
4. Using impact tools (e.g., chisels, wedges) if they have mushroomed heads, the heads might shatter on impact, sending sharp fragments flying

Hand tool precautions, including the following:

1. Employers shall caution employees that saw blades, knives, or other tools be directed away from aisle areas and other employees working in close proximity. Knives and scissors shall be sharp. Dull tools can be more hazardous than sharp ones
2. Floors shall be kept as clean and dry as possible to prevent accidental slips with or around dangerous hand tools
3. Around flammable substances, sparks produced by iron and steel hand tools can be a dangerous ignition source. Where this hazard exists, spark-resistant tools made from brass, plastic, aluminum or wood shall be used

### **Power Tools**

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

The following general precautions shall be observed by power tool users:

1. Never carry a tool by the cord or hose
2. Never remove prongs from any cords
3. Never stand in or near water when using tools
4. Always use a Ground Fault Circuit Interpreter (GFCI) with electrical tools if working in a wet environment
5. Never "yank" the cord or the hose to disconnect it from the receptacle
6. Keep cords and hoses away from heat, oil and sharp edges
7. Replace all frayed and/or damaged extension cords. Do not try to tape cords
8. Disconnect tools when not in use, before servicing and when changing accessories such as blades, bits, and cutters
9. All observers shall be kept at a safe distance away from the work area
10. Secure work with clamps or a vise, freeing both hands to operate the tool
11. Avoid accidental starting. The worker shall not hold a finger on the switch button while carrying a plugged-in tool
12. Tools shall be maintained with care. They shall be kept sharp and clean for the best performance. Follow instructions in the user's manual for maintenance, lubricating and changing accessories

13. Maintain good footing and balance
14. Avoid loose-fitting clothes, ties or jewelry such as bracelets, watches or rings, which can become caught in moving parts
15. Use tools that are either double-insulated or grounded (three-pronged)
16. Keep work area well-lit when operating electric tools
17. Ensure that cords and hoses do not pose as a tripping hazard
18. All portable electric tools that are damaged shall be removed from use and tagged "Do Not Use." This shall be done by supervisors and/or employees

### **Guards**

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

Guards, as necessary, shall be provided to protect the operator and others from the following:

1. Point of operation
2. Nip points
3. Rotating parts
4. Flying chips
5. Sparks

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

### **Safety Switches**

The following hand-held power tools shall be equipped with a momentary contact "on-off" control switch: drills, tappers, fastener drivers, horizontal, vertical and angle grinders with wheels larger than two inches in diameter, disc, and belt sanders, reciprocating saws, saber saws, and other similar tools. These tools also may be equipped with a lock-on control provided that turnoff can be accomplished by a single motion of the same finger or fingers that turn it on.

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

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

### **Electric Tools**

Employees using electric tools shall be aware of several dangers with the most serious being the possibility of electrocution.

Among the chief hazards of electric-powered tools are burns and slight shocks which can lead to injuries or even heart failure.

To protect the user from shock, tools shall either have a three-wire cord with ground and be grounded, be double insulated, or be powered by a low-voltage isolation transformer. Anytime

an adapter is used to accommodate a two-hole receptacle, the adapter wire shall be attached to a known ground. The third prong shall never be removed from the plug.

Tools shall be shut down before cleaning, repairing, or oiling. Disconnect or use Lockout/Tagout Procedures. Refer to HCS's Lockout/Tagout Program.

These general practices shall be followed when using electric tools:

- Electric tools shall be operated within their design limitations
- Gloves, eye protection, and safety footwear are recommended during use of electric tools
- When not in use, tools shall be stored in a dry place
- Electric tools shall not be used in damp or wet locations
- Work areas shall be well lit, even if this means the operators have to augment the work surface illumination by other appropriate means

### **Powered Abrasive Wheel Tools**

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

Before an abrasive wheel is mounted, it shall be inspected closely and sound- or ring-tested to ensure that it is free from cracks or defects. To test, wheels shall be tapped gently with a light non-metallic instrument. If the wheel sounds cracked or dead, they could fly apart in operation and shall not be used. A sound and undamaged wheel will give a clear metallic tone or "ring." To prevent the wheel from cracking, the user shall be sure it fits freely on the spindle. The spindle nut shall be tightened enough to hold the wheel in place, without distorting the flange. Follow the manufacturer's recommendations. Care shall be taken to ensure that the spindle wheel does not exceed the abrasive wheel specifications.

Due to the possibility of a wheel disintegrating (exploding) during start-up, the employee shall never stand directly in front of the wheel as it accelerates to full operating speed.

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

Also, when using a power grinder:

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

### **Pneumatic Tools**

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

There are several dangers encountered in the use of pneumatic tools. The main one is the danger of getting hit by one of the tool's attachments or by some fastener the worker is using with the tool.

Eye protection is required, and face protection is recommended for employees working with pneumatic tools. When sanders are used, dust masks shall also be worn.

Noise is another hazard. Working with noisy tools (e.g., jackhammers) requires proper, effective use of hearing protection. See HCS's Hearing and Noise program.

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

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

Screens shall be set up to protect nearby workers from being struck by flying fragments around chippers, riveting guns, staplers or air drills.

Compressed air guns shall never be pointed toward anyone. Users shall never "dead-end" it against themselves or anyone else. It is recommended to use air guns equipped with safety tips that have relief ports to reduce pressure if a blockage or dead-ending occurs.

### **Powder-Actuated Tools**

Powder-actuated tools operate like a loaded gun and shall be treated with the same respect and precautions. The use of powder-actuated tools is prohibited until approved by Senior Management.

Safety precautions to remember to include the following:

- These tools shall not be used in an explosive or flammable atmosphere
- Before using the tool, the worker shall inspect it to determine that it is clean, all moving parts operate freely, and the barrel is free from obstructions
- Employees shall not modify tools
- The tool shall never be pointed at anybody
- The tool shall not be loaded unless it is to be used immediately. A loaded tool shall not be left unattended, especially where it could be available to unauthorized persons
- Hands shall be kept clear of the barrel end
- To prevent the tool from firing accidentally, two separate motions are required for firing: one to bring the tool into position and another to pull the trigger
- The tools shall not be able to operate until they are pressed against the work surface with a force of at least five pounds greater than the total weight of the tool
- If a powder-actuated tool misfires, the employee shall wait at least 30 seconds, then try firing it again
- If it still does not fire, the user shall wait another 30 seconds so that the faulty cartridge is less likely to explode then carefully remove the load. The bad cartridge shall be put in water
- Suitable eye and face protection are essential when using a powder-actuated tool
- The muzzle end of the tool shall have a protective shield or guard centered perpendicularly on the barrel to confine any flying fragments or particles that might otherwise create a hazard when the tool is fired. The tool shall be designed so that it will not fire unless it has this kind of safety device
- All powder-actuated tools shall be designed for varying powder charges so that the user can select a power level necessary to do the work without excessive force
- If the tool develops a defect during use, it shall be tagged and taken out of service immediately until it is properly repaired

### **Hydraulic Power Tools**

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

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

**Chain Saw**

- Inspect chain saw before each use and periodically during the day.
- Always operate saw with two hands at all times.
- Cuts never should be done above chest high.
- Shut off saw when walking on wet/slippery surfaces and when walking through heavy brush.
- Must wear proper PPE when operating saw. (i.e., Hard hat, safety glasses, boots, hearing protection, and protective leggings)
- Chain saws shouldn't be operated if the operator is fatigue
- Do not operate a chain saw which has damage, improperly adjusted and is not securely assembled
- Keep all body parts away from the saw chain while engine is in operation.



## Section 22 – Machine Guarding

### Regulation

29 CFR 1910.212

### Purpose

This program outlines HCS guidelines for the proper machine guarding on all power tools used by all employees.

At all times, power tools guards shall be in place when operating any power tool.

### Scope and Application

This program applies to all employees who operate any hand tool and/or power tool while engaged in work inside our facility and/or facilities operated by others.

No employee shall operate and/or cause to be operated any machinery without proper protective guards in place or modify/disable any protective guards on machinery without contacting Senior Management for such approval or implementing the Lockout/Tagout program. Such guards shall be provided to protect the operator and other employees from hazards such as exposed belts, pulleys, sheaves, driveshafts, drive couplings, chains, rotating parts, flying chips, and sparks.

### Responsibility

Senior Management is responsible for:

- Inspecting machines for appropriate guarding during annual safety inspections or as requested
- Reporting any questionable conditions that are discovered to the responsible department
- Investigating injuries related to machine guarding

*Departments* are responsible for:

- Contacting Senior Management for approval of alternative guarding methods
- Implementing engineering controls as deemed necessary
- Facilitating equipment specific training with regard to machine guarding
- Ensuring those employees who need to modify/disable any protective guards attend lockout/tagout training
- Ensuring all tagged "out of service" tools/equipment is replaced appropriately

*Employees* are responsible for:

- Complying with all aspects of this program;
- Asking for a demonstration of a tool before use or reading the instructions;
- Reporting all damaged or malfunctioning tools/equipment to their supervisor and removing or tagging such tools/equipment "out of service";
- Contacting their immediate supervisor when alternative guarding methods are necessary;
- Following HCS's Lockout/Tagout program.

### *General Requirements*

Guards shall be affixed to the machine where possible and secured elsewhere if for any reason attachment to the machine is not possible to prevent access to the hazard from all accessible

directions including front, top, bottom, and backside. Examples of guarding methods include barrier guards, two-hand tripping devices or electronic safety devices.

Machines shall be operated with guards in place except when a guard has to be removed following a documented procedure that ensures personnel protection. Such procedures may include those for repair or adjustment. Guards shall be replaced before the machine is put back in service. See HCS's Lockout/Tagout program.

Special hand-feeding tools for placing and removing material shall be such as to permit easy handling of material without the operator placing a hand in the danger zone. Such tools shall not be in lieu of other guarding required by this policy but shall only be used to supplement protection provided.

### **Basic Areas Requiring Safeguarding**

Dangerous moving parts in three basic areas require safeguarding:

- *Point of operation:* The area on a machine where work is performed on the material being processed (e.g., cutting, shaping, boring, forming of stock);
- *Power transmission apparatus:* All components of the mechanical system which transmit energy to the part of the machine performing the work. These components include flywheels, pulleys, belts, connecting rods, couplings, cams, spindles, chains, cranks, and gears; and
- *Other moving parts:* All parts of the machine which move while the machine is working including, but not limited to, reciprocating, rotating, and transverse moving parts, as well as feed mechanisms and auxiliary parts of the machine.

### **Exposure of Blades**

When the periphery of the blades of a fan is less than seven feet above the floor or working level, the blades shall be guarded. The guard shall have openings no larger than one-half inch.

### **Anchoring Fixed Machinery**

All machines designed for a fixed location shall be securely anchored to prevent walking or moving of the machine.

### **Hazardous Mechanical Motions and Actions**

Rotating motion can be dangerous because it can grip clothing, and through mere skin, contact force an arm or hand into a dangerous position. Collars, couplings, cams, clutches, flywheels, shaft ends, spindles, meshing gears, and horizontal or vertical shafting are some examples of common rotating mechanisms which may be hazardous. The danger increases when projections such as set screws, bolts, nicks, abrasions, and projecting keys or set screws are exposed on rotating parts.

Nip point hazards are caused by the in-turning sides of rotating parts. There are three main causes of nip points:

- Parts can rotate in opposite directions while their axes are parallel to each other. These parts may be in contact (producing a nip point) or in close proximity to each other. In the latter cases, the stock fed between the rolls produces the nip points. Machines with intermeshing gears that pose this hazard are rolling mills, and calendars.
- Parts can rotate in the same direction as each other. Some examples would be the point of contact between a power transmission belt and its pulley, a chain, and a sprocket, or a rack and pinion.
- A part can rotate among a fixed part creating a shearing or crushing action. Examples are spoked handwheels or flywheels, screw conveyors, or the periphery of an abrasive wheel and an incorrectly adjusted work rest. Reciprocating motions may be hazardous because,



during the back-and-forth or up-and-down motion, a worker may be struck by or caught between a moving and a stationary part.

Transverse motion (movement in a straight, continuous line) creates a hazard because a worker may be struck or caught in a pinch point or shear point by the moving part.

Cutting action may involve rotating, reciprocating, or transverse motion. The danger of cutting action exists at the point of operation where a finger, arm, and body injuries can occur and where flying chips or scrap material can strike the head, particularly in the eyes or face. Such hazards are present at the point of operation in cutting wood, metal, or other materials. Examples of mechanisms involving cutting hazards include band saws, circular saws, boring or drilling machines, turning machines (lathes), or milling machines.

Punching action results when power is applied to a slide (ram) for the purpose of blanking, drawing, or stamping metal or other materials. The danger of this type of action occurs at the point of operation where stock is inserted, held, and withdrawn by the hand. Typical machines used for punching operations are power presses and ironworkers.

Shearing action involves applying power to a slide or knife to trim or shear metal or other materials. A hazard occurs at the point of operation where stock is actually inserted, held, and withdrawn. Examples of machines used for shearing operations are mechanically, hydraulically, or pneumatically powered shears.

Bending action results when power is applied to a slide to draw or stamp metal or other materials. A hazard occurs at the point of operation where stock is inserted, held, and withdrawn. Equipment that uses bending action includes power presses, press brakes, and tubing benders. Refer to "Bending."

### **Requirements for Safeguards**

Safeguards shall meet these minimum general requirements:

- *Prevent contact:* The safeguard shall prevent hands, arms, and any other part of a worker's body from contacting dangerous moving parts. An effective safeguarding system eliminates the possibility of the operator or another worker placing parts of their bodies near hazardous moving parts.
- *Secure:* Workers should not be able to easily remove or tamper with the safeguard. Guards and safety devices shall be made of durable material that will withstand the conditions of normal use. Guards shall be affixed to the machine where possible and secured elsewhere if for any reason attachment to the machine is not possible.
- *Protect from falling objects:* The safeguard shall ensure that no objects can fall into moving parts. A small tool which is dropped into a cycling machine could easily become a projectile that could strike and injure someone.
- *Create no new hazards:* A safeguard defeats its own purpose if it creates a hazard of its own such as a shear point, a jagged edge, or an unfinished surface which can cause a laceration. The edges of guards, for instance, should be rolled or bolted in such a way that they eliminate sharp edges.
- *Create no interference:* Any safeguard which impedes a worker from performing the job quickly and comfortably might soon be overridden or disregarded. Proper safeguarding can actually enhance efficiency since it can relieve the worker's apprehensions about the injury.
- *Allow safe lubrication:* If possible, one should be able to lubricate the machine without removing the safeguards. Locating oil reservoirs outside the guard, with a line leading to the lubrication point, will reduce the need for the operator or maintenance worker to enter the hazardous area.

### **Non-mechanical Hazards**

When machines produce noise which can startle and disrupt concentration and can interfere with communications, thus hindering the worker's safe job performance, refer to HCS's Hearing and Noise program.

When the use of cutting fluids, coolants, and other potentially harmful substances are used to lubricate machinery, refer to HCS's Hazard Communication Program.

### **Training**

Supervisors shall facilitate operator training involving instruction or hands-on training in the following:

- Description and identification of the hazards associated with particular machines;
- The safeguards on the particular machines including, but not limited to: how they provide protection; the hazards for which they are intended; and how to use them; and
- What to do (e.g., contact the supervisor) if a safeguard is damaged, missing, or unable to provide adequate protection.
- This training shall be provided to all new operators and maintenance or setup personnel, when any new or altered safeguards are put in service, or when workers are assigned to a new machine or operation.



## Section 23 – Electrical Safety

### Regulation

OSHA 29 CFR 1910.331-.335  
NFPA 70E  
NEC (NFPA 70)

### Purpose

Electricity is a serious workplace hazard, capable of causing employee injury (shocks, electrocution, fires, and explosions), serious property damage or death by electrocution. By providing maintenance personnel and other affected employees with proper training in safe electrical work practices, we hope to reduce the risk of such incidents.

### Scope and Application

This program provides guidelines to train employees in basic electrical hazard recognition and safe work practices. Training alone does not qualify or authorize any employee to perform electrical work.

All electrical wiring and equipment must comply with the National Electrical Code, OSHA regulations, and numerous other established safety and engineering standards. This training is in no way to be construed as a synopsis of all electrical requirements, nor as a substitute for formal study, training, and experience in electrical design, construction, and maintenance.

### Responsibilities

Senior Management shall be responsible for:

- the electrical training program at the location,
- assuring employee safety training for qualified and affected workers is conducted on an annual, new employee and as-needed basis (as new hazards are identified),
- periodically assessing the electrical operations at the location to identify new or developing electrical hazards
- utilizing the training material provided to conduct employee training,
- documentation of training
- review of the Electrical Safety Program

Supervisor/Plant Manager is responsible for:

- identifying Qualified Person(s) to work with the facilities' electrical systems,
- implementing updates to OSHA electrical safety and lockout/tagout standards as adopted
- providing employee safety training for qualified and affected workers
- providing all necessary Personal Protective Equipment (PPE) for employees
- ensuring electrical safety inspections are conducted
- assuring all electrical safety hazards are corrected
- and ensuring that all new electrical equipment and components comply with codes and regulations

Employees are responsible for:

- the immediate reporting of electrical safety hazards
- not working on electrical equipment without proper training and authorization

- for inspecting the equipment before using it

## **Definitions**

Authorized/Qualified Person-A qualified person is an individual recognized by location management as having sufficient understanding of the equipment, device, system, or facility to positively control any hazards it presents. Qualification and authorization to perform electrical or electronics work is based on a combination of formal training, experience, and on-the-job training.

Circuit Breaker- (600 volts nominal or less). A device designed to open and close a circuit by non-automatic means and to open the circuit automatically on a predetermined overcurrent without injury to itself when properly applied within its rating.

Conductor- Current carrying portion of the wire.

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

Electric current - The flow of electrons through a conductor.

Extension Cord - Flexible cord that provides a convenient method of bringing AC power to a device that is not located near a power source. They are used as temporary power sources.

Ground - A conducting connection, whether intentional or accidental, between an electrical circuit or equipment and the earth, or to some conducting body that serves in place of the earth.

Ground-Fault Circuit-Interrupter - A device designed to protect personnel by stopping the flow of electricity when the current is flowing back to ground exceeds a predetermined (set) value.

Insulator - A material that does not allow current to freely move from one point to another.

Qualified worker - An employee who is trained and authorized to perform work on electrical equipment and components.

Resistance - Electrical resistance is the restriction of current flowing or moving through any material. (Resistance is measured in ohms) Skin offers about 1000 ohms of resistance.

Unqualified worker - An employee who has not been trained or authorized to perform electrical work.

Volt - The unit measure of electrical potential.

## **Hazard Control**

The following engineering, administrative, and work practice control methods will be used to prevent the occurrence of electrical-related incidents:

### *Engineering Controls*

- All electrical distribution panels, breakers, disconnects, switches, and junction boxes must be completely enclosed
- Water-tight enclosures must be used in any of these components could be exposed to moisture
- Structural barriers must be used to prevent accidental damage to electrical components
- Conduit must be supported for its entire length, and non-electrical attachments to conduit are prohibited
- Non-rigid electrical cords must have strain relief wherever necessary

### *Administrative Controls*

- Only trained, authorized/qualified employees may repair or service electrical equipment
- Contractors must be licensed to perform electrical work
- Physical barriers must be used to prevent unauthorized persons from entering areas where new installation or repair of electrical components or equipment is being performed
- Only authorized employees may enter electrical distribution rooms
- All electrical control devices must be labeled properly
- Senior facility management must authorize any work on energized electrical circuits

### *Work Practice Controls*

- Employees covered under this policy must wear electrically rated personal protective equipment including safety shoes or boots
- Use only tools that are properly insulated
- Non-conductive gloves will be available for work on electrical equipment
- Electrical-rated matting will be placed in front of all electricity-distribution panel

### **Electrical Equipment Inspections**

Shall consist of inspection and assessment of electrical issues and personal protective equipment:

- Electricity - equipment, switches, breakers, fuses, switch boxes, junctions, special fixtures, circuits, insulation, extensions, tools, motors, grounding, national electric code compliance.
- 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.

### **Electrical Equipment**

Inspect all electrical equipment for hazards that could cause employee injury or death. Consider the following factors when determining the safety of the equipment:

- Suitability for the intended use
- Proper insulation
- Heating effects under conditions of use
- Arcing effects
- Classification by type, size, voltage, current capacity, and intended use

### **Personal Protective Equipment (PPE)**

The employer shall provide PPE for use by employees working in areas where they could be exposed to electrical hazards. Employees are required to observe the following procedures for PPE use:

- PPE use is mandatory when contact with exposed electrical sources is likely
- Only use PPE that is designed for the work being performed
- Inspect and test all PPE before use
- Use a protective outer cover (leather, for example) if the work being performed might damage the PPE's insulation
- Wear non-conductive headgear if there is danger of electrical burns or shock from contact with exposed, energized equipment
- Wear eye and/or face protection any time there is danger of flying objects, flashes or electrical arcs produced by an electrical explosion

### **Safe Work Practices and De-energizing/Reenergizing Procedures**

The following safe work practices shall be followed as a minimum when working on or near electrical equipment:

- a) Electrical equipment shall be de-energized, if possible, before and while work is done on the equipment. Follow all lockout and tagout procedures. The only equipment that is infeasible to de-energize due to design or testing requirements or that would create an increased hazard to other individuals from being de-energized can be worked on in a live condition. Facility management approval to work live is mandatory before such work may begin. (The OSHA standard exempts circuits of less than 50 volts from this requirement, providing there is no increased risk of exposure to electrical burns or explosion from electrical arcs.)
- b) A tag shall also be attached to the lockout lock stating that the electrical equipment should not be turned on and the tag should not be removed. Tagout is not necessary when:
  - 1. only one circuit or piece of equipment is de-energized,
  - 2. the lockout period does not extend beyond one work shift, and
  - 3. the employees exposed to the re-energization hazards are familiar with this exemption.
- c) De-energized electrical equipment shall be tested using properly rated equipment to ensure that the electrical equipment is de-energized. This testing shall be done using insulated gloves and other body protection as necessary, depending upon the voltage to be tested.
- d) Reenergizing electrical equipment can be performed only when:
  - 1. A qualified person shall conduct tests and visual inspections, as necessary, to verify that all tools, electrical jumpers, shorts, grounds, and other such devices have been removed, so that the circuits and equipment can be safely energized.
  - 2. Employees exposed to the potential electrical hazard are warned to stay clear of circuits and equipment
  - 3. Each lock and tag is removed by the employee who placed them on the equipment, except as noted in the LOTO removal exemption procedure.
- e) If work is to be performed on live electrical equipment appropriate insulating personal protective equipment shall be worn, as necessary, including glove, boots, insulating clothes, insulating hard hat, etc.
- f) All capacitors on equipment being serviced are considered "energized" until they are properly discharged.
- g) No employee shall plug in or unplug a power cord or extension cord with wet hands.
- h) No handling of power cords that have been immersed in water or other conductive liquid is allowed without proper personal protection being used by the employee.
- i) Power cords used in any area that has any conductive liquid present must be approved for such service.
- j) If a power cord or extension cord circuit is de-energized by a circuit protection device, such as a circuit breaker or ground fault interrupter, the cause of the failure must be determined before re-energization of the power source. If the cause of the circuit interruption can be determined as an overload, no examination of the circuit is needed.
- k) No overcurrent protection equipment can be altered to perform over its rated service capacities.
- l) Circuits that repeatedly trip or repeatedly blow fuses shall be investigated, and any load problems corrected.
- m) Circuit breakers shall not be used as switches for electrical equipment.
- n) Use of power cords or extension cords near flammable liquids shall not be permitted unless sufficient safety measures have been taken and properly rated equipment is used. Proper storage containers are also required for the materials used if they are located near a potential ignition source.
- o) Only non-conductive ladders should be used when working on or near any electrical equipment.
- p) Employees may not enter spaces that contain energized electrical equipment unless proper illumination is provided.
- q) The electrical test equipment shall be inspected regularly and such equipment repaired as necessary.

- r) Where live parts present an electrical contact hazard, employees may 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.
- s) Servicing of energized components in a conductive area (water, steel floor grates, etc.) can be performed only after sufficient insulating equipment has been placed in such location.
- t) Electrically conductive cleaning materials are not to be used while performing energized servicing operations unless procedures are followed to prevent electrical shock.
- u) Under no circumstance shall an employee "blindly" reach into an area that contains energized components.
- v) On electrical panels hinged doors, cabinet covers shall be secured to prevent accidental closure which could hit the employee and knock him/her into the energized components causing an injury.
- w) Safe work distance shall be maintained when working on an energized electrical source. The following table lists the required safe contact distances of servicing employees:

VOLTAGE RANGE/MINIMUM APPROACH DISTANCE	
300 volts or less/avoid contact	
Over 300 volts but less than 750 volts/1 foot	
Over 750 volts but less than 2,000 volts/1 foot 6 inches	
Over 2000 volts but less than 15,000 volts/2 feet	

**Note:** Voltages over 15,000 volts require even greater distances. However, if they are encountered in this facility, they will be serviced by electrical utility personnel and not HCS personnel.

### **Safe Use and Maintenance of Electrical Equipment**

#### *Plug and Cord Electrical Connections*

Equipment used within the facility with a cord and plug, including extension cords, shall be handled in a safe manner so as not to damage the insulating covering. These cords may not be fastened or hung in such a manner that could cause damage to the insulating covering. The power connections must not be placed in such a manner as to create a hazard to the employees working in the area. For example, an extension cord cannot be placed or hung in an area where material handling equipment could come in contact with it, causing breakage, resulting in an electrical shock.

Power cord use within the facility is acceptable only if daily inspections are performed of all exposed cords. These visual inspections should be performed before the beginning of the shift, looking for any defects, such as broken insulation, damaged pins, deformities or loose parts. If a power cord is found to be defective, repair or replacement must be performed before using such cord.

#### *Grounded Electrical Equipment and Power Tools*

Grounding type equipment and power tools must use a grounding-type of power cord and/or extension cord containing a grounding conductor. Alterations of grounding-type connections are not allowed, such as a non-grounded adaptor on a grounding-type cord.

Portable electrical equipment shall not be lowered or raised using their cords. Such equipment shall be visually inspected before each use and repaired as necessary.

### **PPE When Working on or Near Live Circuits**

Only qualified personnel are allowed to perform any service on the live (energized) electrical components of any equipment within the facility. Servicing of energized components of equipment is acceptable only when de-energization will interfere with or preclude the repair operations to be performed. Other than these limited operations, lockout/tagout energy control procedures must be implemented. Normal energy control procedures are required during

operations such as a switch or motor replacement, etc. (See lockout/tagout program for all HCS equipment.)

When working with conductive materials near energized equipment components, extra care must be taken to prevent contact between a worker's body and the energized components. This shall be done by insulating such materials or the use of additional personal protective equipment on the employee. Operations on live components located with a confined or enclosed space, such as a manhole or vault, additional personal protective equipment may be necessary and shall be worn.

The employer must provide protective shields, barriers, or insulating materials, which the employee must use when performing any operations on live equipment components. Servicing employees shall have personal protective equipment available from the employer at all times. This equipment must be in good condition and be replaced as needed.

#### *Special Insulating Tools*

Electric shock protective equipment (non-conductive) and employee personal protective equipment must be used during servicing of energized components. For example, if a service employee is to replace a fuse in an energized fuse box, a sufficiently protective fuse puller must be used.

Non-conductive tools must be used whenever possible during servicing operations on energized equipment.

All ropes and chains used near energized equipment must be of a non-conductive material. All ladders used within the facility near exposed energized equipment components must have non-conductive side rails.

#### *Insulated Clothes/Clothing*

Use fire rated clothing. Synthetic materials or fabrics that may melt are prohibited. Employee clothing must be of non-conductive material. Thus, rings, watches, and necklaces are not permitted during these operations. However, if these items are worn and are sufficiently covered by a non-conductive insulating material, they are permitted.

#### *Head Protection*

Employees must wear a protective insulating head covering if their head is near a potential source of live electrical energy.

#### *Electrical Arc-Eye Protection*

During operations where an electrical arc may be present, adequate eye protection must be provided for the servicing employee.

#### *Welding-Safety Curtains*

If any welding operations are to be performed within the facility during production hours, and other person may be affected by the welding arc, a safety curtain capable of shielding all employees in the area must be in place before any work beginning.

#### *Warning Signs/Barriers*

Signs should be placed in the area of live repairs being performed to warn other employees in the facility of the hazard present. Barriers of a non-conductive material shall be placed around the working area where energized equipment components are exposed, and other personnel could come in contact with the components. When signs and barricades do not provide sufficient



protection of the other employees, then an attendant will be placed at the site of the repair to verbally warn and protect employees from the hazards present.

## **Employee Training**

### *Qualified Employees*

Training for those employees qualified to perform electrical work will consist of:

- Specific equipment procedures
- The training requirements outlined in OSHA standard 29 CFR 1910.331 to 1910.339

### *Unqualified Employees*

Employees not qualified or authorized to perform work on electrical equipment and components will be trained in general electrical safety precautions for the purpose of hazard awareness.

The following electrical safety rules also apply to unqualified employees:

- Do not conduct any electrical repairs
- Report all electrical hazards to your supervisor
- Do not operate the equipment if you believe there is an electrical hazard
- Do not allow electrical equipment or components to contact water
- Remember that even low-voltage electricity can be physically harmful
- Do not use cords or plugs that are missing the 'ground' prong
- Do not overload electrical receptacles

### Action Steps

- All electrical wiring and equipment must comply with the National Electrical Code, OSHA regulations, and numerous state and local safety and engineering standards.
- Schedule location assessments to identify electrical hazards that develop during normal operations.
- Correct all electrical hazards as soon as possible.
- Determine which employees need to be trained in electrical safety.
- Reference to the Lockout /Tagout training program when training employees on Electrical Safety.
- Use employee training document in the appendix to record training
- Review the program's effectiveness and make changes where and when necessary.



## Section 24 – Lockout/Tagout

### Regulation

OSHA Standard CFR 29 1910.147

### Purpose

This establishes HCS policy for protecting employees who must do service or maintenance on machines or equipment and who could be injured by an unexpected start-up or release of hazardous energy. Service or maintenance includes erecting, installing, constructing, repairing, adjusting, inspecting, unjamming, setting up, troubleshooting, testing, cleaning, and dismantling machines, equipment, or processes.

This policy will ensure that machinery or equipment is stopped, isolated from all hazardous energy sources, and properly locked or tagged out.

### Scope and Application

This policy applies to all employees who may be exposed to hazardous energy during service or maintenance work. Uncontrolled energy includes potential, kinetic, flammable, chemical, electrical, and thermal sources.

To establish a means of positive control to prevent the accidental starting or activating of machinery or systems while they are being repaired, cleaned, and/or service.

HCS lockout/tagout program will do the following:

- Establish a safe and positive means of shutting down machinery, equipment, and systems.
- Prohibit unauthorized personnel or remote-control systems from starting machinery or equipment while it is being serviced.
- Provide a secondary control system (tagout) when it is impossible to positively lockout the machinery or equipment.
- Establish responsibility for implementing and controlling lockout/tagout procedures.
- Ensure that only approved locks, standardized tags and fastening devices provided by HCS will be utilized in the lockout/tagout procedures.

### Areas of Responsibility

Senior Management/*Managers/Supervisors/Foreman*

- implementing the lockout/tagout program
- enforcing the program and ensure compliance with the procedures in their department.
- Must enforce the use of the lockout and tagout devices when employees do service or maintenance work and may be exposed to hazardous energy
- responsible for monitoring the compliance of this procedure and will conduct the annual inspection and certification of the authorized employees.

*Employees:*

- All employees must follow established lockout/tagout energy control procedures.
- Employees who do service and maintenance work must follow the lockout/tagout procedures

- Employees who work in areas where the lockout/tagout procedures are used must understand the purpose of the procedure and are prohibited from attempting to restart machines or equipment that are locked and tagged out

## **Definitions**

Affected Employee - A person who uses equipment that is being serviced under lockout or tagout procedures, or who works in an area where equipment is being serviced.

Authorized Employee - A person who locks out or tags out equipment to do service or maintenance work. An affected employee becomes an authorized employee when that employee's duties include service or maintenance work on equipment.

Capable of being locked out - An energy-isolating device that is designed with a hasp or other means of attachment to which, or through which a lock can be affixed, or if it has a locking mechanism built into it. Other energy-isolating devices will also be considered to be capable of being locked out if lockout can be achieved without the need to dismantle, rebuild, or replace the energy-isolating device or permanently alter its energy control capability.

Disconnect - A switch that disconnects an electrical circuit or load (motor, transformer, or panel) from the conductors that supply power to it. An open circuit does not allow electrical current to flow. Under a lockout procedure, a disconnect must be capable of being locked in the open position.

Energized - Connected to an energy source or containing potential energy.

Energy source - Any source of energy. Examples: electrical, mechanical, hydraulic, pneumatic, chemical, and thermal.

Energy-isolating device - A mechanical device that physically prevents transmission or release of energy.

Hazardous energy - Any of the types of energy existing at a level or quantity that could be harmful to workers or cause injury through inadvertent release or start-up of equipment.

Lockout device - A device that locks an energy-isolating device in the safe position.

Lockout - Placing a lockout device on an energy-isolating device, under an established procedure, to ensure the energy-isolating device and the equipment it controls can't be operated until the lockout device is removed. (An energy-isolating device is capable of being locked out if it has a hasp that accepts a lock or if it has a locking mechanism built into it.)

Procedure - A series of steps taken to isolate energy and shut down equipment.

Servicing or maintenance - Workplace activities such as constructing, installing, setting up, adjusting, inspecting, modifying, and maintaining machines or equipment. Also includes lubricating, cleaning, unjamming, and making adjustments or tool changes if a worker may be exposed to the unexpected startup of the equipment during such activities.

Tagout device - A prominent warning sign, such as a tag, that can be securely fastened to an energy-isolating device to indicate that the energy-isolating device and the equipment it controls can't be operated until the tagout device is removed.

Tagout - Placing a tagout device on an energy-isolating device, under an established procedure, to indicate that the energy-isolating device and the equipment it controls can't be operated until the tagout device is removed.

### **Lockout and Tagout Devices**

Lockout and tagout devices must meet the following criteria to ensure that they are effective and not removed inadvertently:

- Lockout devices must work under the environmental conditions in which they are used. Tagout device warnings must remain legible even when they are used in wet, damp, or corrosive conditions.
- Lockout and tagout devices must be designated by color, shape, or size. Tagout devices must have a standardized print and warning format.
- Lockout devices and tagout devices must be strong enough that they can't be removed inadvertently. Tagout devices must be attached with a single-use, self-locking material such as a nylon cable tie.
- Any employee who sees a lockout or tagout device must be able to recognize who attached it and its purpose.
- Each lock must have a unique key or combination.

Energy-isolating devices are the primary means for protecting employees who service equipment and must be designed to accept a lockout device. Energy isolating devices must identify function.

### **Electrical energy sources**

Lockout or tagout of electrical energy sources must occur at the circuit disconnect switch. Electrical control circuitry does not effectively isolate hazardous energy.

### **Exposure survey**

An HCS designated person will conduct a hazardous-energy survey to determine affected machines and equipment, types and magnitude of energy, and necessary service and maintenance tasks. Each task will be evaluated to determine if it must be accomplished with a lockout or tagout procedures.

### **Energy Control Procedures**

Authorized employees who lockout or tagout equipment or do service and maintenance must follow specific written energy-control procedures. The procedures must include the following information:

- The intended use of the procedure
- Steps for shutting down, isolating, blocking, and securing equipment
- Steps for placing, removing, and transferring lockout devices
- Equipment-testing requirements to verify the effectiveness of the energy control procedures

### **Employees must do the following before they begin service or maintenance work:**

- Inform all affected employees of equipment shutdown.
- Shut down equipment.
- Isolate or block hazardous energy.
- Remove any potential (stored) energy.
- Lockout or tagout the energy sources.
- Verify the equipment is isolated from hazardous energy and de-energized.

## **Employees must do the following they remove lockout or tagout devices and re-energize equipment:**

- Remove tools and replace machine or equipment components.
- Inform coworkers about energy-control device removal.
- Ensure all workers are clear of the work area.
- Verify machine or equipment power controls are off or in a neutral position.
- Remove the lockout or tagout device.
- Re-energize equipment.

## **Special Lockout/Tagout Situations**

### *Energized Testing*

When an energy-isolating device is locked or tagged, and it is necessary to test or position equipment, do the following:

1. Remove unnecessary tools and materials.
2. Ensure that all other employees are out of the area.
3. Remove locks or tags from energy isolating devices.
4. Proceed with the test.
5. De-energize equipment and lockout or tagout energy-isolating devices.
6. Operate equipment controls to verify that the equipment is de-energized.

## **Training and Communication**

Each authorized employee who will be utilizing the lockout/tagout procedure will be trained in recognition of applicable hazardous energy sources, type, and magnitude of energy available in the workplace, and the methods and means necessary for energy isolation and control.

Each affected employee and all other non-authorized employees shall be instructed in the purpose and use of the lockout/tagout procedure and the prohibition relating to attempts to restart or re-energize machines or equipment which are locked out or tagged out.

Employees whose jobs are in areas where energy-control procedures are used will be trained about the procedures and the prohibition against starting machines that are locked or tagged out.

Employees will be retrained annually to ensure they understand energy-control policy and procedures.

Authorized and affected employees will be retrained whenever their job assignments change, energy-control procedures change, equipment, or work processes present new hazards, or when they don't follow energy-control procedures.

Current training records will be maintained for each authorized and affected employee including the employee's name and the training date

### **Procedures for Periodic Inspection**

A periodic inspection (at least annually) will be conducted of each authorized employee under the lockout/tagout procedure. This inspection shall be performed by an HCS designated person provided they are not the ones utilizing the energy control procedure being inspected.

The inspection will include a review between the inspector and each authorized employee, of that employee's responsibilities under the energy control (lockout/tagout) procedure. The inspection will also consist of a physical inspection of the authorized employee while performing work under the procedures. The periodic inspection shall be conducted to correct any deviation or inadequacies identified.



## Section 25 – Ladders Safety Program

### Regulatory Status

1910.25 Portable Wood Ladders.  
1910.26 Portable Metal Ladders.  
1910.27 Fixed Ladders.

### Introduction

The purpose of this program is to put forth the regulations regarding ladder and stairway safety. All precautions concerning the care and use of wood/metal ladders shall be observed by all HCS employees.

### Scope

All ladders owned by HCS will be used and maintained in a safe and healthful manner.

### Responsibility

#### ***Managers and Supervisors***

- Managers and supervisors are responsible for ensuring that all employees, and/or contractors who may use a ladder read and understand the ladder safety program
- Managers and supervisors are responsible for ensuring that all ladders being used by HCS employees and contractors are free from defects and all moving parts are in good working condition
- Managers and supervisors will assure all employees and contractors have been provided proper basic training information
- Managers and supervisors will maintain all training records when they occur.

#### ***Employees***

- Employees shall inspect ladders prior, during, and at the completion of each use to ensure the condition of the ladder and the safety of its occupants.
- Employees are responsible for following this program and reporting any damage or repairs that may be needed to their supervisor.
- Employees need to attend ladder training before the usage of any ladder on HCS property or job sites.

### Categories of Ladders

- Type IA-300 pounds extra heavy duty
- Type I-250 pounds, heavy-duty
- Type II-225 pounds, medium-duty
- Type III-200 pounds, light duty

### General Procedure

All HCS employees must comply with the following:

1. Before usage of any ladder complete Ladder Safety Training. Safety training will consist of recognition of possible hazards associated with ladder use, proper maintenance, and safety precautions to be taken when using ladders.

2. Inspect all ladders for defects or possible hazards before the ladders are used. Inspections should be conducted periodically by a competent person. Ladders with loose parts or faulty rungs should be taken out of service immediately.
3. Remove all ladders from service/work area if defected and tag the ladder "Defective/Dangerous and Do Not Use."
4. Whenever possible, have someone within shouting distance while on a ladder.

## **Wooden and Metal Single Ladder Safety Policy**

### *Definitions*

Ladder - an appliance usually consisting of two side rails joined at regular intervals by cross-pieces called steps, rungs, or cleats, on which a person may step in ascending or descending.

Single ladder - a non-self-supporting portable ladder, nonadjustable in length, consisting of but one section. The overall length of the side rail designates its size.

The following precautions concerning the care and use of HCS wooden and metal ladders should be used to ensure safety and serviceability:

### *Care*

- Ladders shall be maintained in good condition at all times, the joint between the steps and side rails shall be tight, all hardware and fittings secured and attached, and the movable parts shall operate freely without binding or undue play.
- Metal bearings of locks, wheels, pulleys, etc., shall be frequently lubricated.
- Frayed or badly worn rope shall be replaced.
- Safety feet and other auxiliary equipment shall be kept in good condition to ensure proper performance.
- Rungs (metal and wood) should be kept free of grease and oil. This can easily be done with a solvent or steam cleaning.
- Metal ladder rungs and steps shall be corrugated, knurled, dimpled, coated with skid-resistant material, or otherwise treated to minimize the possibility of slipping.
- If a ladder is involved in a tip-over accident it must be immediately inspected for damage.

### *Use*

- Single ladders shall not be longer than 30 feet.
- A two-section extension ladders shall not be longer than 60 feet. All ladders of this type shall consist of two sections, one to fit within the side rails of the other and arranged in such a manner that the upper section can be raised and lowered.
- Portable rung and cleat ladders shall, where possible, be used at such a pitch that the horizontal distance from the top support to the foot of the ladder is  $\frac{1}{4}$  of the working length of the ladder (the length along the ladder between the foot and the top support).
- Keep all ladders at least ten (10) feet away from power lines.
- Ladders shall be so placed as to prevent slipping, or it shall be lashed, or held in position.
- Ladders shall not be used in a horizontal position as platforms, runways, or scaffolds.
- Ladders for which dimensions are specified should not be used by more than one man at a time nor with ladder jacks and scaffold planks where use by more than one man is anticipated. In such cases, specially designed ladders with larger dimensions of the parts should be procured.
- Portable ladders shall be so placed that the side rails have a secure footing
- The top rest for portable rung and cleat ladders shall be reasonably rigid and shall have ample strength to support the applied load.
- Ladders with broken or missing steps, rungs, or cleats, broken side rails, or other faulty equipment shall not be used; improvised repairs shall not be made.
- Short ladders shall not be spliced together to provide long sections.
- Ladders made by fastening cleats across a single rail shall not be used.

- Ladders shall not be used as guys, braces, or skids, or for other than their intended purposes.
- Tops of the ordinary types of stepladders shall not be used as steps.
- HCS employees Shall NOT place ladders:
  - In front of doors opening toward the ladder unless the door is locked, guarded or blocked upon.
  - on boxes, barrels, or other unstable bases to obtain additional height
- Portable rung ladders with reinforced rails shall only be used with the metal reinforcement on the underside.
- No ladder should be used to gain access to a roof unless the top of the ladder shall extend at least 3 feet above the point of support, at eaves, gutter, or roofline.
- Middle and top sections of sectional or window cleaner's ladders should not be used for bottom section unless they are equipped with safety shoes.
- All portable rung ladders will be equipped with nonslip bases when there is a hazard of slipping. Nonslip bases are not intended as a substitute for care in safely placing, lashing, or holding a ladder that is being used upon oily, metal, concrete, or slippery surfaces.
- All portable ladders are designed as a one-person working ladder based on a 200pound load.
- The ladder base section must be placed with a secure footing.
- The top of the ladder must be placed with the two rails supported unless equipped with a single support attachment.
- When ascending or descending, the climber must face the ladder.
- Ladders must not be tied or fastened together to provide longer sections.
- They must be equipped with the hardware fittings necessary if the manufacturer endorses extended uses.
- Ladders should not be used as a brace, skid, guy or gin pole, gangway, or for other uses than that for which they were intended unless specifically recommended for use by the manufacturer.
- The bracing on the back legs of step ladders is designed solely for increasing stability and not for climbing.

## **Straight and Extension Ladders**

### *Definition:*

A non-self-supporting portable ladder adjustable in length. It consists of two or more sections traveling in guides or brackets so arranged as to permit length adjustment. Its size is designated by the sum of the lengths of the sections measured along the side rails.

### *Use*

- The minimum width between side rails shall be 12 inches.
- The length of single ladders or individual sections of ladders shall not exceed 30 feet.
- Two section ladders shall not exceed 48 feet in length, and over two-section ladders shall not exceed 60 feet in length.
- Based on the nominal length of the ladder, each section of a multi-section ladder shall overlap the adjacent section by at least the number of feet stated in the following:

## **Fixed ladders**

### *Definition*

Fixed ladder - A ladder permanently attached to a structure, building, or equipment.

Individual-rung ladder - a fixed ladder each rung of which is individually attached to a structure, building, or equipment.

### *HCS Design Policy*

- The minimum design live load shall be a single concentrated load of 200 pounds.



- The number and position of additional concentrated live load units of 200 pounds each as determined from anticipated usage of the ladder shall be considered in the design.
- The live loads imposed by persons occupying the ladder shall be considered to be concentrated at such points as will cause the maximum stress in the structural member being considered.
- The weight of the ladder and attached appurtenances together with the live load shall be considered in the design of rails and fastenings.

## **Portable stepladders**

### *Definition*

A self-supporting portable ladder, nonadjustable in length, having flat steps and a hinged back. Its size is designated by the overall length of the ladder measured along the front edge of the side rails. Stepladders longer than 20 feet shall not be used.

Stepladders of one of the following types specified shall be used all HCS employees:

#### Type I - Industrial stepladder

- 3 to 20 feet for heavy-duty, such as utilities, contractors, and industrial use.

#### Type II - Commercial stepladder

- 3 to 12 feet for medium-duty, such as painters, offices, and light industrial use.

#### Type III - Household stepladder

- 3 to 6 feet for light duty, such as light household use.

## **Miscellaneous**

### *Rungs and cleats*

- All rungs shall have a minimum diameter of a three-fourths inch for metal ladders, and a minimum diameter of 1 1/8 inches for wood ladders.
- The distance between rungs, cleats, and steps shall not exceed 12 inches and shall be uniform throughout the length of the ladder.
- The minimum clear length of rungs or cleats shall be 16 inches.
- Rungs, cleats, and steps shall be free of splinters, sharp edges, burrs, or projections which may be a hazard.
- The rungs of an individual rung ladder shall be so designed that the foot cannot slide off the end.

### *Ladder Materials*

- For all wood ladders, parts will be maintained free from sharp edges and splinters; sound and free from accepted visual inspection from shake, wane, compression failures, decay, or other irregularities. Low-density wood shall not be used.
- For all metal ladders, they should be maintained away from dents inside rails dents or bends, or excessively dented rungs

### *Step spacing*

- A uniform step spacing shall be employed, which shall be not more than 12 inches. Steps shall be parallel and level when the ladder is in position for use.

### *Side rail width*

- From top to bottom, the side rails shall spread at least 1 inch for each foot of length of the stepladder. The minimum width between side rails at the top, inside to inside, shall be not less than 11 1/2 inches.

### *Metal spreaders/locking devices*

- A metal spreader or locking device of sufficient size and strength to securely hold the front and back sections in open positions shall be properly maintained for each step ladder. The

spreader shall have all sharp points covered or removed to protect the user. For Type III ladders, the pail shelf and spreader may be combined in one unit (the so-called shelf lock ladder).

## **Portable stepladders**

### *Definition*

A self-supporting portable ladder, nonadjustable in length, having flat steps and a hinged back. Its size is designated by the overall length of the ladder measured along the front edge of the side rails. Stepladders longer than 20 feet shall not be used.

Stepladders of one of the following types specified shall be used all HCS employees:

Type I - Industrial stepladder

- 3 to 20 feet for heavy-duty, such as utilities, contractors, and industrial use.

Type II - Commercial stepladder

- 3 to 12 feet for medium-duty, such as painters, offices, and light industrial use.

Type III - Household stepladder

- 3 to 6 feet for light duty, such as light household use.

## **HCS Clearance Policy**

### *Climbing Side*

- On fixed ladders, the perpendicular distance from the centerline of the rungs to the nearest permanent object on the climbing side of the ladder shall be 36 inches for a pitch of 76 degrees, and 30 inches for a pitch of 90 degrees, with minimum clearances for intermediate pitches varying between these two limits in proportion to the slopes.
- Ladders without cages or wells. A clear width of at least 15 inches shall be provided each way from the centerline of the ladder in the climbing space, except when cages or wells are necessary.
- Clearance in back of the ladder. The distance from the centerline of rungs, cleats or steps to the nearest permanent object in back of the ladder shall be not less than 7 inches, except that when unavoidable obstructions are encountered.
- Clearance in back of grab bar. The distance from the centerline of the grab bar to the nearest permanent object in the back of the grab bars shall be not less than 4 inches. Grab bars shall not protrude on the climbing side beyond the rungs of the ladder which they serve.
- Step across distance. The step across the distance from the nearest edge of ladder to the nearest edge of equipment or structure shall be not more than 12 inches or less than 2 1/2 inches.
- Hatch cover. Counterweighted hatch covers shall open a minimum of 60 degrees from the horizontal. The distance from the centerline of rungs or cleats to the edge of the hatch opening on the climbing side shall be not less than 24 inches for offset wells or 30 inches for straight wells. There shall be no protruding potential hazards within 24 inches of the centerline of rungs or cleats; any such hazards within 30 inches of the centerline of the rungs or cleats shall be fitted with deflector plates placed at an angle of 60 degrees from the horizontal.

## **Special Requirements for Cages and Wells**

### *Definition*

Cage - a guard that may be referred to as a cage or basket guard, which is an enclosure 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.

## **Cages or wells**

- Cages or wells (except on chimney ladders) shall be built,

- Cages shall extend down the ladder to a point not less than 7 feet nor more than 8 feet above the base of the ladder, with bottom flared not less than 4 inches, or portion of cage opposite ladder shall be carried to the base.
- 9.14.1.4 Cages shall not extend less than 27 nor more than 28 inches from the centerline of the rungs of the ladder. The cage shall not be less than 27 inches in width. The inside shall be clear of projections. Vertical bars shall be located at a maximum spacing of 40 degrees around the circumference of the cage; this will give a maximum spacing of approximately 9 1/2 inches, center to center.
- Ladder wells shall have a clear width of at least 15 inches measured each way from the centerline of the ladder. Smooth walled wells shall be a minimum of 27 inches from the centerline of rungs to the good wall on the climbing side of the ladder. Where other obstructions on the climbing side of the ladder exist, there shall be a minimum of 30 inches from the centerline of the rungs.

### **Training**

All HCS employees will go through ladder safety training before beginning work on any ladder. Training will be provided by a competent person with HCS. Any employee who experiences an accident or near-miss accident will be mandated to go back through the HCS training program. All employee training records will be kept on file.



## Section 26 – Forklift Safety Program

### Regulation

OSHA 29 CFR 1910.178 – Power Industrial Trucks

### Purpose

HCS is committed to providing a safe and healthy work environment and to protecting our employees from injury or death caused by uncontrolled hazards in the workplace. The Forklift Safety Program has been established to reduce the risk of physical injury or property damage in areas where powered forklifts and other powered material handling equipment is in operation.

### Scope and Application

The Forklift Safety Program applies to all employees and vendors who operate forklifts and other powered material handling equipment at our facilities.

### Responsibilities

#### *Management*

HCS management is responsible for providing safe equipment and the resources necessary to implement this program, and for ensuring that this program is being followed by all affected employees.

#### *Senior Management*

Senior Management is responsible for developing and implementing our Forklift Safety Program, including:

- Annually reviewing and updating this written plan
- Providing appropriate training on the safe operation of all powered forklift equipment used within the facilities
- Documenting all training and evaluations
- Observing forklift operations and reporting unsafe practices to the appropriate supervisor
- Reviewing copies of inspection checklists

#### *Supervisors*

Supervisors are responsible for:

- Ensuring that employees who are found to have insufficient skills or understanding of safe forklift operations receive retraining before continuing to operate any forklift
- Ensuring employees comply with all safe work practices described in this program
- Observing forklift operations in their department and correcting any unsafe practices
- Providing feedback on this program to an HCS designated person(s)

#### *Forklift Operators*

Operators are responsible for the following:

- Operate only the forklifts for which they have been specifically trained and authorized
- Operate all forklifts in a safe manner, consistent with the forklift safe work practices
- Conduct forklift inspections at the beginning of each work shift and documenting the inspection on the appropriate inspection forms
- Report all equipment malfunctions and/or maintenance needs to their supervisors immediately
- Wear a seatbelt at all times while operating a forklift
- Notify their supervisors if they begin taking a medication that affects their ability to operate a forklift

#### *Pre-Qualification*

All forklift operator candidates must meet the following basic requirements before starting initial or refresher training:

- No uncorrectable vision problems that would impair the safe operation of the forklifts
- No uncorrectable hearing loss that would impair the safe operation of the forklifts
- No physical limitations that would impair the safe operation of the forklifts
- No neurological disorders that affect balance or consciousness
- No use of medication that affects perception, vision or balance

#### *Initial Employee Training*

Operator training occurs before an employee is permitted to operate any forklift or other powered material handling equipment in our facilities. All operational training will be conducted under close supervision. Training will consist of a combination of formal instruction (e.g., lecture, discussion, DVD), practical training (demonstrations performed by the trainer and exercises performed by the trainee), and an evaluation of the operator's performance in the workplace.

Only knowledgeable and experienced forklift operators that are authorized by HCS are permitted to conduct training and evaluations. Only Senior Management can authorize other people to provide forklift training. These employees must be designated as competent employees and have a designation in writing of being a competent person in their personnel file.

All training and evaluations are documented and will include the name of the trainee, name of the trainer, and the date of training.

#### *Training Program Content*

Training for forklift operators is extensive and covers both general forklift topics and workplace-specific topics, including:

General forklift topics:

- An overview of HCS's written forklift program
- Operating instructions, warnings and precautions for the types of forklifts the operator will be authorized to operate
- Differences between forklifts and automobiles
- Forklift controls and instrumentation
- Engine or motor operation
- Steering and maneuvering
- Visibility (including restrictions due to loading)

- Fork and attachment adaptation, operation and use limitations
- Vehicle capacity and stability
- Vehicle inspection and maintenance
- Refueling and/or charging of batteries
- Seatbelt use

Workplace-specific topics:

- Surface conditions where the vehicle will be operated
- Load stability, manipulation, stacking and unstacking
- Pedestrian traffic areas
- Narrow aisles and other restricted places
- Hazardous locations where the vehicle will be operated
- Ramps and other sloped surfaces that could affect the vehicle's stability
- Closed environments and other areas where a buildup of carbon monoxide or diesel exhaust could exist
- Any other unique or potentially hazardous environmental conditions in the workplace that could affect safe operations

*Refresher Training*

Refresher training will be conducted to ensure that all operators have the knowledge and skills needed to operate forklifts safely. Refresher training will be conducted for individual operators when:

- The operator has received an evaluation that reveals he/she is not operating the forklift safely
- The operator has been observed operating the vehicle in an unsafe manner
- The operator has been involved in an accident or near-miss incident
- The operator is assigned to drive a different type of forklift
- A condition in the workplace has changed which could affect the safe operation of the forklift

Refresher training will be evaluated by Senior Management to gauge the effectiveness of the training.

*Operator Evaluation*

Each forklift operator's performance is evaluated every three years. This evaluation includes a discussion with the operator regarding his/her experience with the forklift, an observation of the employee operating the forklift, and written documentation that the evaluation was performed. All evaluations will be documented on the form located in Appendix B. Individuals that do not pass the evaluation will be immediately removed from forklift operations until they successfully pass refresher training.

*Forklift Safe Work Practices*

The following procedures will be followed at all times.

Equipment Inspection.

- Each shift the forklift operator will inspect their forklift before the operation. If any inspection item is determined to be damaged, broken or inoperable, the operator will notify their supervisor and authorized mechanic. If possible, the forklift will be immediately repaired. If immediate repair is not possible, a determination will be made as to whether the forklift can be used safely until repairs can be made. If the forklift is

deemed not safe to operate then the equipment needs to be lockout/tagout until repairs are completed

- Employees may not operate an unsafe forklift at any time.
- Forklifts will be kept in clean condition, free of dirt, excess oil and grease.

#### Repairs and Maintenance.

- Only HCS authorized personnel will perform repairs and maintenance on forklifts and other powered material handling equipment.
- The authorized mechanic will complete a maintenance log that identifies repair needs and corrective actions taken for each forklift.
- If a forklift cannot be safely operated, it must be taken out of service until the repairs have been made. Forklifts that have been taken out of service will be visually marked with an out of service sign, and the ignition keys will be secured in a specified location.
- After repairs have been completed, the forklift must be given a performance test before being returned into service to ensure that the equipment is safe to operate.

#### Changing and Charging Batteries.

- Forklift batteries will only be changed and charged in the designated area located in HCS's facility
- Equipment is provided at battery-charging areas to safely flush and neutralize spilled battery acid and electrolytes.
- Smoking is prohibited in all battery-charging areas.
- Eyewash equipment is available and maintained in all charging areas.
- Precautions will be taken to prevent open flames, sparks, and electric arcs in charging areas.
- Employees who change and service batteries and handle corrosive liquids must wear PPE including:
  - Long sleeve shirt and full-length pants
  - Face shield
  - Safety glasses or goggles
  - Chemical apron
  - Chemical gloves
- The following steps must be taken when charging forklift batteries.
  1. Set emergency brake
  2. Remove the battery cover
  3. Check for plugged vent caps
  4. Turn off battery charger then connect it to the battery
  5. Avoid touching battery terminals with any metal object as this could cause a spark
  6. Once batteries are charged turn off the battery charger
  7. Disconnect the battery charger from the battery and replace the battery cover

#### LP Gas Cylinder Changing.

- Forklift LP cylinders will only be changed in the designated area located in the HCS' facility
- All full and empty cylinders will be kept in the appropriately labeled cylinder cage when not on a forklift.
- Smoking is prohibited in all cylinder changing areas.
- Eyewash equipment is available and maintained in all changing areas.
- Precautions are taken to prevent open flames, sparks, and electric arcs in changing areas.
- Employees who change cylinders must wear appropriate PPE including:
  - Long sleeve shirt and full-length pants
  - Face shield
  - Safety glasses or goggles

– Gloves

- The following steps must be taken when changing all forklift LP cylinders.
  1. Set emergency brake and leave the engine running
  2. Close tank valve and use up remaining fuel in the fuel lines
  3. Turn off ignition
  4. Disconnect the hose from the tank and remove the tank
  5. Inspect new tank for leaks and damage (Do not use if there is a leak or dents in the tank)
  6. Install the new tank and connect the hose
  7. Open the tank valve and restart the engine

General Safe Work Practices.

- Only authorized, trained personnel are permitted to operate forklifts.
- Horseplay is prohibited.
- Operators must drive with both hands on the steering wheel. Do not drive with wet or greasy hands.
- No person is permitted to ride as a passenger on a forklift or on the load being carried.
- A forklift may not be used to elevate a platform or pallet with persons on it, except work platforms specifically designed for this purpose. Work platforms must have standard guardrails and must be securely fastened to the forks.
- No person is allowed to stand or walk under elevated forks.
- Operators should avoid making jerky starts, quick turns, or sudden stops.
- Operators may not use reverse as a brake.
- Operators must slow down on wet and slippery surfaces and at cross aisles or locations where vision is obstructed.
- Operators entering a building or nearing a blind corner must make their approach at a reduced speed, sound their horn, and proceed carefully.
- Operators must give pedestrians the right-of-way at all times.
- Operators may not drive toward any person who is in front of a fixed object or wall.
- Operators may not overtake and pass another forklift traveling in the same direction.
- Operators must not put their fingers, arms or legs between the uprights of the mast, or beyond the contour of the forklift.
- Forks should always be placed under the load as far as possible. Do not lift a load with one fork.
- No-load should be moved unless it is safe and secure.
- Spotters must be used when handling long lengths of bar stock, pipe, or other materials.
- Compressed gas cylinders may be moved only in special pallets designed for this purpose.
- When unloading trucks or trailers, the brakes on the vehicle must be set (locked) and the wheels chocked.
- Forklifts must be safely parked when not in use. The controls must be neutralized, power shut off, brakes set, key removed, and the forks must be in a down position, flat on the surface, and not obstructing any walkways or aisles.
- A forklift will not be left on an incline unless it is safely parked, and the wheels chocked.
- Only stable and safely arranged loads may be handled.
- Only loads within the rated capacity of the forklift may be lifted or moved.

Traveling.

- Facility speed limits must be observed at all times.
- Three forklift lengths (or two seconds) must be maintained between forklifts in operation.
- The forklift must be kept under control at all times.
- When the vision is obscured, the operator must slow down and sound the horn.
- If the load blocks the operator's view, the forklift must be driven in the direction that provides the best visibility.
- Forklifts must cross railroad tracks at a diagonal.



- Forklifts must be parked 8 feet or further from the centerline of railroad tracks.
- The forklift must be driven with the load upgrade when driving on ascending or descending grades greater than 10%.
- Dock boards and bridge plates must be properly secured before they are driven over.
- When the forklift is not carrying a load, the operator must travel with the forks as low as possible (maximum of 3 inches on paved surfaces). When carrying a load, it should be carried as low as possible (consistent with safe operation, 2 to 6 inches above the surface.)
- The forks may not be operated while the forklift is traveling.

*Periodic Program Review*

The Forklift Safety Program and procedures are reviewed annually.



## Section 27 – Aerial Lifts

### Regulatory Statute

- OSHA Standard 29CFR 1910.68 (Powered Platforms, Man lifts, and Vehicle-Mounted Work Platform)
- OSHA Standard 29CFR 1926.453 (Aerial Lifts)
- ANSI/SIA A92.6 – 2006 (Self-Propelled Elevated Work Platforms)

### Policy

This program has been developed to reduce the risk of physical injury or property damage in areas where aerial lifts are in operation.

### Application and Scope

This program applies to the operation of all types of aerial lifts operated by HCS employee(s).

### Responsibilities

#### *Management/ HCS Designated Safety Person*

- Review the Aerial Lift Safety program annually for compliance and effectiveness.
- Verify that all employees who operate or work near aerial lifts are properly trained.
- Maintain written records of operator training on each model of aerial lift and the name of the trainer.
- Maintain written records of all inspections performed by the aerial lift owner, including the date any problems found, the date when fixed, and the name of the person performing the repairs.
- Maintain written records of the name and purchaser of each aerial lift.
- Make recommendations for revisions if necessary.
- Establish expected operating conditions for aerial lift and send to OHS to review before operation
- Provide orientation and initial training as requested by and/or contractors.
- Provide general safety training requirements for the program.
- Evaluate designated areas for aerial lift use.
- Define appropriate eyewash facilities for battery changing/charging areas.

#### *Supervisors*

- Coordinate employee training, and certify that all operators receive annual training
- Ensure that only trained and qualified individuals use aerial lifts.
- Verify employee compliance with the principles and practices outlined in this program

#### *Employees/Operators*

- Read the Aerial Lift Safety Program.
- Complete the Daily Pre-Use Inspection Checklist before operating any aerial lift.

- Observe the operation of the aerial lift and report unsafe practices to your supervisor.

## **Procedure**

### *Pre-Use Inspection*

- Before any employee(s) use any aerial lift, a pre-use inspection checklist must be completed. This applies to the beginning of every workday, period and shifts.
- At the time of pre-inspection if any safety defects are found, they must be reported to your immediate supervisor. Defects would include such things as Defective brakes, steering, lights, horns, hydraulic fluid leaks, seat belt, missing fire extinguisher or back up alarm.
- If defects are found during the pre-inspection, the aerial lift must be locked and tagged and taken out of service until repaired. All employees should use lockout/tagout procedures.

If the aerial/scissor lift becomes disabled, an "out of service" tag or equivalent shall be attached to the controls inside the platform in a conspicuous location.

## **Safe Work Practices**

- All employees/operators should avoid wearing any loose clothing, including jewelry that has the possibility of getting caught in a moving part.
- Employee/operator must completely walk around the machine to ensure everything and everyone is clear of the machine before the machine is started.
- Articulating boom and extendable 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 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.
- Without prior manufacture's written approval, no employee/operator should do any modification or additions to any aerial lifts. These types of changes may affect the capacity and safe operation of an aerial/scissor lift, therefore strictly prohibited. If any modifications need to be changed such as capacity, operation or maintenance instruction, this will be approved through the manufacturer and will be provided instructions on how to make these modifications and/or additions.
- The insulated portion, if applicable, of an aerial/scissor lift shall not be altered in any the manner that might reduce its insulating value.
- All aerial/scissor lifts must have legible signs, plates, and decals. If at any time any of these become illegible, they must be replaced.
- All employees/operators who have an accident or a near-miss accident must report, regardless of fault and severity, to their Supervisor.

## **Safe Work Practices**

### *Before Operation*

- Wind conditions should always be considered before starting operation. As a rule of thumb, aerial lifts shall not be operated in winds > 25 mph. However, this can vary depending on model of equipment. Employees/operators should always follow the manufactures recommendation regarding windy conditions.
- Guardrails must be installed, and access gates or openings must be closed before raising the platform.

- Boom and platform load limits specified by the manufacturer shall not be exceeded.
- Boom(s) shall be inspected to see that it is properly cradled, and outriggers are in the stowed position, if equipped, before moving an aerial lift for travel.
- Consideration shall be given to the protection of bystanders via barricading, having another employee keep bystanders at a safe distance or by other means.
- Aerial lifts shall not be operated from trucks, scaffolds, or similar equipment.

#### *During Operation*

- Attention shall be given towards the direction of travel, clearances above, below and on all sides.
- Employees shall not sit or climb on the guardrails of the aerial lift.
- Planks, ladders, or other devices shall not be used on the work platform.
- The aerial lift shall NOT be:
  - Moved when the boom is elevated in a working position with employees in the basket.
  - Placed against another object to steady the elevated platform.
  - Used as a crane or other lifting device.
  - It is operated on grades, side slopes or ramps that exceed the manufacturer's recommendations.
  - Used for stunt driving and horse playing
- The brakes shall be set and outriggers, when used, shall be positioned on pads or a solid surface.
- Speed of aerial lift devices shall be limited according to the conditions of the ground surface, congestion, visibility, slope, location of personnel, and other factors that may cause hazards to other nearby personnel.
- Booms and elevated platform devices shall not be positioned in an attempt to jack the wheels off the ground.
- The area surrounding the elevated platform shall be cleared of personnel and equipment before lowering the elevated platform.
- All equipment must be secured on the inside of the aerial lift
- Employee(s)/Operators are to call for assistance if the platform or any part of the machine becomes entangled.

#### *After Operation*

- Safe shutdown shall be achieved by the following:
  - ◊ utilizing a suitable parking area
  - ◊ placing the platform in the stowed position
  - ◊ placing controls in neutral
  - ◊ idling engine for gradual cooling
  - ◊ turning off electrical power
  - ◊ taking the necessary steps to prevent unauthorized use
- Before an aerial lift is fuel one must shut off prior fueling. This process must be completed in well-ventilated areas free of flames, sparks or other hazards which may cause fires or explosions.

#### **Changing and Charging Batteries**

- Battery charging installations must be located in areas designated for that purpose

- Facilities must have the following: flushing and neutralizing spilled electrolyte, fire protection, protection of charging apparatus from damage by trucks, adequate ventilation for dispersal of fumes from gassing batteries.
- HCS employees who have been authorized and train in changing aerial lifts batteries are the only ones who can change batteries.
- During the time an employee is changing or charging batteries they are required to wear the following protective clothing to include face shields, long sleeve shirts, rubber boots, aprons, and gloves.
- Precautions must be taken to prevent open flames, sparks, or electric arcs in battery charging areas.

### **Maintenance**

- Any aerial lift not in safe operating condition must be removed from service. Authorized personnel must make all repairs.
- Repairs to the fuel and ignition systems of aerial lifts that involve fire hazards must be conducted only in locations designated for such repairs.
- Aerial lifts in need of repairs to the electrical system must have the battery disconnected before such repairs.
- Only use replacement parts that are currently recommended by the manufacturer.

### **Aerial Lift with Boom Operating Procedures**

- Only authorized persons shall operate the boom, and basket load limits specified by the manufacturer shall not be exceeded.
- The minimum clearance between electrical lines and any part of the equipment (i.e., crane or load) shall be 10 feet for lines rated 50 kV or below.
- Employees shall always stand firmly on the floor of the basket and shall not sit or climb on the edge of the basket or use planks, ladders, or other devices for a work position.
- An approved fall restraint system shall be worn when working inside a boom truck. An approved fall restraint system shall be attached to the boom or basket when working from the boom and it is not permitted to be attached to adjacent poles or structures.
- All employees who operate a boom truck shall be trained in the safe operation of the specific device they will operate. Training must conform to all OSHA requirements.

### **Safety Check – Daily**

- The operator of the vehicle should conduct a safety / “circle check” of the vehicle to determine hazards, identify damage, and leaks.
- The “daily check” shall include but is not limited to a visual inspection of the vehicle exterior, including;
  - broken, damaged, loose, or missing parts
  - tire bulges, cuts, and pressure
  - oil and hydraulic leaks
  - weld integrity, such as cracks and rust
  - lighting (beam, directional and safety)
  - all required decals and stickers on or around the articulating boom
  - they must be in place, legible and understandable

### **Worksite Inspection**

- Try not to park on uneven ground.
- Keep an eye out for drop-offs, holes, bumps, and debris.

- Do not operate the boom if wind gusts exceed 30 mph or there is a threat of an electrical storm.
- Set emergency brake.
- Position wheel chocks.
- Look out for overhead obstructions.

**Fall Hazards**

- Always keep feet on the floor of the bucket.
- Do not sit, stand, or climb on the edge of the basket.
- Do not place any item in the bucket for the purpose of increasing work height (ladders, step stools).
- Do not try to climb down from the bucket when it is raised.
- Make sure the bucket floor is clear of debris.
- ALWAYS WEAR FALL PROTECTION!

**Tip-Over Hazards**

- Do not push or pull toward anything while raised in the bucket.
- Do not carry ladders, etc. in the bucket.
- Do not exceed the 300 lb. load capacity.
- Do not move the truck when the bucket is raised.
- Do not operate in high winds.
- Make sure truck is parked on even ground.
- Make sure the outriggers are positioned properly.
- Never use the bucket truck as a crane

**Collision Hazards**

- Watch for traffic and beware of blind spots when driving the truck - take it SLOW.
- Watch for overhead obstructions.
- Travel very slow on bumpy or sloped ground and when driving near other workers or pedestrians.

**Electrocution Hazards**

- Maintain safe clearances from power lines and apparatus. No aerial platform, insulated or not, provides any electrical protection to the occupant if there is phase-to-phase or phase-to-ground contact. Be aware of safe distances listed in Table below.

<b>TABLE R-2 - APPROACH DISTANCES TO EXPOSED ENERGIZED OVERHEAD POWER LINES AND PARTS</b> Voltage range (phase to phase, RMS)	Approach Distance (inches)
300 V and less	(1)
Over 300V, not over 750V	12
Over 750V not over 2 kV	18
Over 2 kV, not over 15 kV	24
Over 15 kV, not over 37 kV	36
Over 37 kV, not over 87.5 kV	42
Over 87.5 kV, not over 121 kV	48
Over 121 kV, not over 140 kV	54

## **Improper Use**

- Never leave the truck unattended unless the key is taken out and the truck is secured from unauthorized users.
- Never refuel the truck when the engine is running.
- NEVER USE A DAMAGED MACHINE!

## **Training Requirements**

Employees who are authorized to operate aerial lifts must receive training before engaging in their duties, and at least every three (3) years after that. The training is to ensure that the Aerial Lift Safety Program is understood. The supervisor will also ensure that authorized aerial lift operators have acquired the necessary practical skills required for safe operation.

Operational training will consist of a combination of general safety instruction, practical/operational training (demonstrations performed by the trainer, and practical exercises performed by the trainee), and evaluation of the operator's performance in the workplace. All operational training must be conducted under close supervision.

Training records must be maintained by HCS for a minimum of 3 years.



## Section 28 – Scaffold Safety Program

### Regulation

OSHA 29 CFR 1910.28 – General Industry  
OSHA 29 CFR 1026451 – Construction Industry

### Purpose

The purpose of this program is to establish guidelines for the protection of HCS employees who work on scaffold work surfaces.

### Scope and Application

Scaffolds shall be erected, moved, dismantled, or altered only under the supervision of a competent person and will have guardrails and toe boards installed. When scaffolding hazards exist that cannot be eliminated, then engineering practices, administrative practices, safe work practices, Personal Protective Equipment (PPE), and proper training regarding Scaffolds will be implemented. These measures will be implemented to minimize those hazards to ensure the safety of employees and the public.

### Responsibilities

It is the responsibility of each manager/unit head, supervisor, and employee to ensure implementation of HCS's safety policy and procedure on Scaffolds. It is also the responsibility of each HCS employee to report immediately any unsafe act or condition to his or her supervisor.

#### *Management:*

- Implement, review and audit HCS's scaffolding policy as needed
- identify the employees affected by this policy
- obtain and coordinate the required training for all affected employees
- will decide HCS's competent person
- ensure adequate funds are available for purchasing of scaffolding equipment

#### *Supervisor/Foremen:*

- not allow any employee who has not been trained to perform any task related to scaffolding erection and/or dismantling
- ensure employees are provided with proper PPE necessary for their job
- ensure a competent person is in charge of scaffolding erecting according to manufacture's specification

#### *Competent Person:*

- oversee the scaffold selection, erection, use, movement, alteration, dismantling, maintenance and inspection
- be knowledgeable about proper selection, care, and use of fall protection equipment
- assess all job site hazards

#### *Employees:*

- comply with all scaffolding guidelines and procedures



- report any damage to scaffolding, accessories, and missing or lost components to immediate supervisor
- assist in daily scaffolding inspections as needed

### **Definitions**

**Brace:** A tie that holds one scaffold member in a fixed position with respect to another member. Brace also means a rigid type of connection holding a scaffold to a building or structure.

**Coupler:** A device for locking together the component tubes of a tube and coupler scaffold.

**Harness:** A design of straps which is secured about the employee in a manner to distribute the arresting forces over at least the thighs, shoulders, and pelvis, with provisions for attaching a lanyard, lifeline, or deceleration device.

**Hoist:** A mechanical device to raise or lower a suspended scaffold. It can be mechanically powered or manually operated.

**Maximum Intended Load:** A total load of all employee, equipment, tool, materials, transmitted, wind, and other loads reasonably anticipated to be applied to a scaffold or scaffold component at any one time.

**Mechanically Powered Hoist:** A hoist which is powered by other than human energy.

**Outriggers:** The structural member of a supported scaffold used to increase the base width of a scaffold to provide greater stability for the scaffold.

**Platform:** The horizontal working surface of a scaffold.

**Safety Belt:** A strap with means for securing about the waist or body and for attaching to a lanyard, lifeline, or deceleration device.

**Scaffold:** Any temporary elevated or suspended platform and its supporting structure used for supporting employees or materials or both, except this term do not include crane or derrick suspended personnel platforms.

### **Fixed Scaffolding Safety Policy**

1. To ensure safety and serviceability, the following general precautions concerning the care and use of Scaffolding will be observed:
2. Footing and anchorages. The footing and or anchorage for scaffolds will be sound, rigid, and capable of carrying the maximum intended load without settling or displacement. Unstable objects such as barrels, boxes, loose brick, or concrete blocks will not be used to support scaffolds or planks.
3. Scaffolds and their components will be capable of supporting without failure at least four times the maximum intended load.
4. Scaffolds will be maintained in a safe condition at all times in accordance with the manufacturers' recommendations. Fixed scaffolds will not be altered or moved horizontally while they are in use or occupied.
5. Any scaffold damaged or weakened from any cause will be immediately repaired and will not be used until repairs have been completed.
6. Scaffolds will not be loaded more than the working load for which they are intended.
7. All load-carrying timber members of scaffold framing will be a minimum of 1,500 f. (Stress Grade) construction grade lumber.
8. All planking will be Scaffold Grade as recognized by grading rules for the type of wood used. The scaffold manufacturers recommendations will be followed.

9. Nails or bolts used in the construction of scaffolds will be of adequate size and in sufficient numbers at each connection to develop the designed strength of the scaffold. Nails will not be subjected to a straight pull and will be driven full length.
10. All planking or platforms will be overlapped (minimum 12 inches) or secured from movement.
11. An access Scaffold or equivalent safe access will be provided.
12. Scaffold planks will extend over their end supports not less than 6 inches nor more than 18 inches.
13. The poles, legs, or uprights of scaffolds will be plumb, and securely and rigidly braced to prevent swaying and displacement.
14. Materials being hoisted onto a scaffold will have a tag line.
15. Overhead protection will be provided for men on a scaffold exposed to overhead hazards.
16. Scaffolds will be provided with a screen between the toe board and the guardrail, extending along with the entire opening, consisting of No. 18 gauge U.S. Standard Wire one-half inch mesh or the equivalent, where persons are required to work or pass under the scaffolds.
17. Employees will not work on scaffolds which are covered with ice or snow unless all ice or snow is removed and planking sanded to prevent slipping.
18. Tools, materials, and debris will not be allowed to accumulate in quantities to cause a hazard.
19. Only treated or protected fiber rope will be used for or near any work involving the use of corrosive substances or chemicals.
20. Wire or fiber rope used for scaffold suspension will be capable of supporting at least six times the intended load.
21. Lumber sizes, when used in this section, refer to nominal sizes except where otherwise stated.
22. Scaffolds will be secured to permanent structures, through use of anchor bolts, reveal bolts, or other equivalent means. Window cleaners' anchor bolts will not be used.
23. Special precautions will be taken to protect scaffold members, including any wire or fiber ropes, when using a heat-producing process.

### **Mobile (Rolling) Scaffolding Safety Policy**

1. To ensure safety and serviceability, the following general precautions concerning the care and use of Scaffolding will be observed:
2. Working loads. Work platforms and scaffolds will be capable of carrying the design load under varying circumstances depending upon the conditions of use.
3. The design load of all scaffolds will be calculated based on:
  - **Light** Designed and constructed to carry a working load of 25 pounds per square foot
  - **Medium** Designed and constructed to carry a working load of 50 pounds per square foot.
  - **Heavy** Designed and constructed to carry a working load of 75 pounds per square foot.
4. Nails, bolts, or other fasteners used in the construction of ladders, scaffolds, and towers will be of adequate size and in sufficient numbers at each connection to develop the designed strength of the unit. Nails will be driven full length. (All nails should be immediately withdrawn from dismantled lumber.)
5. All exposed surfaces will be free from sharp edges, burrs, or other safety hazards.
6. Work levels. The maximum work level height will not exceed four (4) times the minimum or least base dimensions of any mobile scaffold. Where the basic mobile unit does not meet this requirement, suitable outrigger frames will be employed to achieve this least base dimension, or provisions will be made to guy or brace the unit against tipping.
7. The minimum platform width for any work level will not be less than 20 inches for mobile scaffolds (towers). Ladder stands will have a minimum step width of 16 inches.
8. The supporting structure for the work level will be rigidly braced, using adequate cross bracing or diagonal bracing with rigid platforms at each work level.
9. The work level platform of scaffolds (towers) will be of wood, aluminum, or plywood planking, steel or expanded metal, for the full width of the scaffold, except for necessary openings.

Work platforms will be secured in place. All planking will be 2inch (nominal) scaffold grade minimum 1,500 f. (stress grade) construction grade lumber or equivalent.

11. All scaffold work levels 10 feet or higher above the ground or floor will have a standard (4inch nominal) toe board.
12. All work levels 10 feet or higher above the ground or floor will have a guardrail of 2 x 4-inch nominal, or the equivalent installed no less than 36 inches or more than 42 inches high, with a mid-rail, when required, of 1 x 4inch nominal lumber or equivalent.
13. Wheels or casters. Wheels or casters will be inspected to ensure that they are provided with strength and dimensions to support four (4) times the design working load.
14. All scaffold casters will be inspected to ensure that they are provided with a positive wheel and swivel lock to prevent movement.
15. Where leveling of the elevated work platform is required, screw jacks or other suitable means for adjusting the height will be used.
16. Employees are not permitted to ride rolling scaffolds during relocation.
17. Adjusting screws may not be extended more than 12 inches.
18. Before moving the platform, secure all equipment and material.
19. Casters or wheels must have a serviceable locking device.
20. Be aware of overhead obstructions when moving scaffolds.
21. Never run over electrical cords.
22. Never pull scaffolds from the top, always push at the base level.
23. Work only from the platform area never extend work beyond guard railing.

### **Erecting of Scaffolding**

Only trained and authorized employees of HCS (or a 3<sup>rd</sup> party) will supervise the erection of scaffolding. Pertinent OSHA regulations and information and guidance provided by the manufacturer of the particular type of scaffolding will be used. The following applies:

1. Manufacturers erection instructions will be followed.
2. Planning considerations will be followed during the erection process.
3. Only trained and authorized employees will supervise the erection of scaffolding.
4. Each component will be visually inspected before use.
5. Defective or unserviceable materials will not be used,
6. Only approved lumber will be used.
7. Consult with the project manager where any instructions are unclear.

### **Pre-Inspection of Erected Scaffolding**

The three main areas of inspection are for rust, straightness of members, and welds. Only trained employees of HCS will conduct the pre-inspection. Pertinent OSHA regulations and information and guidance provided by the manufacturer of the particular type of scaffolding will be used. The following as a minimum apply:

1. Rust. Heavily rusted scaffolding equipment is a possible sign of abuse or neglect.
2. Severely rusted components should be thoroughly inspected and cleaned before approved for use.
3. Straightness of members. Mishandling, trucking, and storing may cause damage to
4. scaffolding equipment. All members or parts of all steel scaffolding components should be straight and free from bends, kinks or dents.
5. Welds. Scaffolding equipment should be checked before use for damaged welds and any
6. piece of equipment showing damaged welds or re-welding beyond the original factory weld should not be used. The factory weld reference pertains to location and quality of re-welds.
7. Check serviceability of locking devices.
8. Check alignment of coupling pins and braces.
9. Check serviceability of caster brakes (rolling scaffolds).

### **Final Inspection of Erected Scaffolding**

Only trained and authorized employees of HCS will conduct the final inspection of erected scaffolding. Pertinent OSHA regulations and information and guidance provided by the manufacturer of the particular type of scaffolding will be used. The following as a minimum apply:

1. Check for proper support under every leg of every frame.
2. Check for washout (if outside) due to rain.
3. Check to ensure all base plates or adjustment screws are in firm contact with supports.
4. Check frames for plumpness and squareness in both directions.
5. Check serviceability and correctness of all cross braces.
6. Check to ensure that all planking and accessories are properly installed.
7. Check to ensure that all guard rails are in place.
8. Recheck periodically to ensure conditions remain safe.

### **Dismantling of Scaffolding**

Only trained and authorized employees of HCS will supervise the dismantling of the scaffolding. Pertinent OSHA regulations and information and guidance provided by the manufacturer of the particular type of scaffolding will be used. The following applies:

1. Manufacturers dismantling instructions will be followed.
2. Relocation planning considerations will be considered during the dismantling process.
3. Dismantling will be supervised by a competent employee.
4. Each component will be visually inspected after use.
5. Defective or unserviceable materials will not be stored with serviceable materials.
6. Avoid dropping or throwing the components as this could result in damage to the equipment.
7. Consult with the project manager where any instructions are unclear.

### **Training**

A training program will be provided for all employees who will be using scaffolding in the course of their duties. The training will be conducted by competent personnel. The program will include but will not be limited to:

1. A description of fall hazards in the work area or job site
2. Procedures for using fall prevention and protection systems
3. Scaffolding access and egress procedures
4. Scaffolding equipment limitations
5. Inspection and storage procedures for the equipment

Initial training will be conducted before a job assignment. HCS will provide training to ensure that the purpose, function, and proper use of scaffolding is understood by employees and that the knowledge and skills required for the safe application, and usage is acquired by employees. This standard practice instruction will be provided to and read by all employees receiving training. The training will include, at a minimum the following:

1. Types of scaffolding used by HCS.
2. Recognition of applicable fall hazards associated with the work to be completed and the locations of such.
3. Load determination and balancing requirements.
4. Safety precautions in the use of scaffolds.
5. All other employees whose work operations are or maybe in an area where scaffolding may be utilized will be instructed to an awareness level concerning the associated hazards.
6. Equipment maintenance and inspection requirements.
7. Equipment strengths and limitations.

### **Refresher training**

This standard practice instruction will be provided to and read by all employees receiving refresher training. The training content will be identical to initial training. Refresher training will

be conducted on an as-needed basis or when the following conditions are met, whichever event occurs sooner.

Whenever (and before) a change in their job assignments, a change in the type of scaffolding equipment used, or when a known hazard is added to the work environment which affects this program.

Additional retraining will also be conducted whenever a periodic inspection reveals, or whenever ABC has reason to believe, that there are deviations from or inadequacies in the employee's knowledge or use of scaffolding equipment or procedures.

Whenever a scaffolding safety procedure fails.

The retraining will reestablish employee proficiency and introduce new or revised methods and procedures, as necessary.

### **Certification**

HCS will certify that employee training has been accomplished and is being kept up to date. The certification will contain each employee's name and dates of training. Training will be accomplished by competent personnel.



## Section 29 – Fall Protection

### Regulation

29 CFR 1910.23

### Purpose

The following Fall Protection Plan is prepared for the prevention of injuries to our employees associated with falls. A Fall Protection Plan must be developed and evaluated on a site-by-site basis.

### Scope and Application

HCS is dedicated to the protection of our employees from on-the-job injuries. All employees have the responsibility to work safely on the job. The purpose of this plan is:

- a. To provide safety standards specifically designed to cover fall protection on all of our jobs
- b. To ensure that each employee is trained and made aware of the safety provisions which are to be implemented by this plan before the start of erection.

The program addresses the use of conventional fall protection, as well as, identifies specific activities that require non-conventional means of fall protection. These areas include:

- a. Connecting activity (point of erection)
- b. Leading-edge work
- c. Unprotected sides or edges
- d. Grouting

### Fall Protection Systems

Only an HCS designated person(s) and the immediate supervisor can make decisions on the proper fall protection system to be used for any specific application. Fall protection systems will only be utilized after careful consideration and task/project review.

#### *Covers*

All hole and wall covers must be secured to prevent accidental displacement.

- a. Covers will be color-coded or bear the markings "HOLE" or "COVER."
- b. Covers must be able to support twice the weight of employees, equipment, and materials that might cross them.
- c. Covers located in roadways must be able to support twice the axle load of the largest vehicle that might cross them.

#### *Guardrail Systems*

Guardrail systems are erected at unprotected edges, ramps, runways, or holes where it is determined by the supervisor/foremen that erecting such systems will not cause an increased hazard to employees. The following specifications are followed in the erection of guardrail systems.

1. Top rails will be:
  - a. Minimum ¼ inch in diameter. Cannot use steel or plastic banding.
  - b. It is flagged every 6 feet or less with a high visibility material if wire rope is used.
  - c. Inspected by supervisor/foreman as frequently as necessary to ensure strength and stability;

- d. 42 inches, plus or minus 3 inches, above the walking/working level
  - e. Adjusted to accommodate the height of stilts, if they are in use.
2. Mid-rails, screens, mesh, intermediate vertical members, and solid panels will be erected in accordance with the OSHA Fall Protection Standard. Gates or removable guardrail sections will be placed across openings of hoisting areas or holes when they are not in use to prevent access.
  3. A standard railing will consist of the top rail, intermediate rail, and posts, and shall have a vertical height of 42 inches, nominal from upper surface of top rail to floor, platform, runway, or ramp level. The top rail shall be smooth-surfaced throughout the length of the railing.
  4. The intermediate rail will be approximately halfway between the top rail and the floor, platform, runway, or ramp. The ends of the rails shall not overhang the terminal posts except where such overhang does not constitute a projection hazard.
  5. A standard toe-board shall be 4 inches, nominal in vertical height from its top edge to the level of the floor, platform, runway, or ramp. It shall be securely fastened in place and with not more than 1/4-inch clearance above floor level. It may be made of any substantial material either solid or with openings not over 1 inch in greatest dimension.

### *Personal Fall Arrest Systems*

Personal fall arrest systems are issued to and used by employees as determined by an HCS designated person(s) and may consist of anchorage, connectors, body harness, deceleration device, lifeline, or suitable combinations.

1. Personal Fall Arrest Systems:
  - a. limit the maximum arresting force to 1800 pounds
  - b. are rigged so an employee cannot free fall more than six (6) feet or contact any lower level
  - c. bring an employee to a complete stop and limit the maximum deceleration distance traveled to three and a half (3 ½) feet are strong enough to withstand twice the potential impact energy of an employee free falling six (6) feet or the free fall distance permitted by the system, whichever is less
  - d. are inspected before each use for damage and deterioration
  - e. are removed from service if any damaged components are detected
2. The use of non-locking snap-hooks is prohibited.
3. Dee-rings and locking snap-hooks:
  - a. have a minimum tensile strength of 5000 pounds; and
  - b. are proof tested to a minimum tensile load of 3600 pounds without cracking, breaking, or suffering permanent deformation.
4. Lifelines are:
  - a. designed, installed, and used under the supervision of a qualified person – one who, by possession of a recognized degree, certificate, or professional standing, or who by extensive knowledge, training, and experience, has successfully demonstrated his ability to solve or resolve problems relating to the subject matter, the work, or the project
  - b. protected against cuts and abrasions
  - c. equipped with horizontal lifeline connection devices capable of locking in both directions on the lifeline when used on suspended scaffolds or similar work platforms that have horizontal lifelines that may become vertical lifelines
  - d. Self-retracting lifelines and lanyards have ropes and straps made of synthetic fibers, and
  - e. sustain a minimum tensile load of 3600 pounds if they automatically limit free fall distance to 2 feet
  - f. sustain a minimum tensile load of 5000 pounds, includes rip stitch, tearing, and deforming lanyards
5. Anchorages support at least 5000 pounds per person attached and are:
  - a. designed, installed, and used under the supervision of a qualified person
  - b. capable of supporting twice the weight expected to be imposed on it
  - c. independent of any anchorage used to support or suspend platforms

### *Positioning Device Restraint Systems*

Body belt or body harness systems are set up so that an employee can free fall no farther than 2 feet and are secured to an anchorage capable of supporting twice the potential impact load or 3000 pounds, whichever is greater. Requirements for snap-hooks, dee-rings, and other connectors are the same as detailed in this Program under *Personal Fall Arrest Systems*.

### *Safety Monitoring Systems*

In situations when no other fall protection has been implemented, supervisor\foremen will monitor the safety of employees in these work areas.

The supervisor\ foreman is one who is:

1. competent in recognition of fall hazards
2. capable of warning workers of fall hazard dangers
3. operating on the same walking/working surfaces as the employees and able to see them
4. close enough to work operations to communicate orally with employees
5. free of other job duties that might distract them from the monitoring function

No employees other than those engaged in the work being performed under the Safety Monitoring System are allowed in the area. All employees under a Safety Monitoring System are required to promptly comply with the fall hazard warnings of the supervisor\foremen.

### *Warning Line Systems*

Warning line systems consisting of supporting stanchions and ropes, wires, or chains are erected around all sides of open edged work areas.

1. Lines are flagged at no more than 6-foot intervals with high-visibility materials.
2. The lowest point of the line, including sag, is between 34 and 39 inches from the walking/working surface.
3. Stanchions of warning line systems are capable of resisting at least 16 pounds of force.
4. Ropes, wires, or chains have a minimum tensile strength of 500 pounds.
5. Warning line systems are erected at least 6 feet from the edge, except in areas where mechanical equipment is in use. When mechanical equipment is in use, warning line systems are erected at least 6 feet from the parallel edge, and at least 10 feet from the perpendicular edge.

### **Training**

All employees that are exposed to fall hazards will be trained in and familiar with hazards related to falls, and how to use proper procedures to minimize these hazards. Specifically, training must include, at a minimum:

1. nature of the fall hazards employees may be exposed to
2. correct procedures for erecting, maintaining, disassembling, and inspecting fall protection systems
3. use and operation of controlled access zones, guardrails, personal fall arrest systems, warning lines, and safety monitoring systems
4. role of each employee in the safety monitoring system, if one is used
5. correct procedures for equipment and materials handling, and storage and erection of overhead protection
6. role of each employee in alternative fall protection plans, if used
7. requirements of the OSHA Fall Protection Standard.

Also, retraining must be provided for each employee, as necessary, so that the employee maintains the understanding and knowledge necessary for the safe performance of specific tasks needing to be conducted by that individual.

Additional training is provided:



1. when there is a change in job responsibilities
2. a change in equipment that presents a new hazard
3. when their work takes them into hazardous areas

Additional retraining is also provided whenever a periodic inspection reveals, or whenever there is a reason to believe there are deviations from or inadequacies in an employee's knowledge of known hazards.

Following each training session, the employee is required to sign and date the training record verifying attendance.



## Section 30 – Confined Space Program

### Regulation

CFR 1910.146

### Purpose

The purpose of the Confined Space Program is to increase the safety of HCS employees and onsite contractor(s) by establishing appropriate procedures for identifying, classifying and managing confined spaces in our operations, facilities and/or job sites.

### Scope

The objective of this program is to protect employees from injury upon entry into a confined space. Work will not begin in a confined space until the potential hazards have been identified, eliminated or minimized, and proper classification of the space has been made. Employees will not enter a confined space until the requirements of this written program have been implemented.

All employees are required to follow the procedures outlined in this program. Any deviations from this program must be immediately brought to the attention of an HCS designated person(s). This program will apply to all HCS employees and onsite contractor(s) during maintenance, repair, cleaning, construction, or other activities that take place in the confined space(s).

### Program Responsibilities

#### *Management:*

- Consulting with affected employees on the development and implementation of all aspects of the confined space program
- Providing affected employees all information contained within the confined space program

#### *HCS Designated Person(s)/Qualified Person*

1. Conducting an initial survey of both the premises and operations to identify confined spaces
2. Establishing a process to identify the addition or deletion of confined spaces
3. Maintaining a current inventory of confined spaces
4. Evaluating each confined space to classify the spaces as permit-required or non-permit required
5. Informing exposed employees of the existence, location, and danger posed by the permit-required confined space by posting danger signs, including information in new employee training and posting a list of confined spaces in a pre-determined designated area
6. Conducting confined space air monitoring and maintaining related records
7. Reviewing canceled entry permits for opportunities for continuous improvement
8. Preventing employees and onsite contractors from entering permit-required confined spaces that are not approved for entry
9. Maintaining the rescue plan for all confined spaces
10. Arranging for rescue team simulations in all permit-required spaces annually
11. Reviewing the Confined Space Program at least annually, or more often if needed, to determine if changes are needed due to added processes, equipment or recently introduced hazards
12. Conducting, documenting and assessing the effectiveness of employee training

### ***Entry Supervisor/Leader***

1. Conducting an initial external visual inspection of the confined space entry point when possible
2. Knowing the requirements of the Confined Space Program, including how to properly implement the duties of the Entrants, Attendants and Rescue Personnel
3. Completing entry permits
4. Determining entrance requirements
5. Posting the permit in a conspicuous location near the entry point
6. Determining the number of Attendants required for the safe completion of the work
7. Verifying that rescue services are available before and throughout the entry and that the means for summoning them are operable
8. Verifying that all required preliminary actions have been taken before endorsing the permit and authorizing entry to begin
9. Ensuring no additional responsibilities are given to the Attendant other than observing the Entrant(s) and their duties
10. Ensuring that acceptable conditions are maintained for the duration of the entry
11. Communicating the status and requirements of the entry to other Entry Supervisors/Leaders whenever the Entry Supervisor/Leader role is changed
12. Terminating entry, assuring removal of personnel and equipment and revoking or canceling the permit when required

### ***Entry Team - Attendant***

1. Being stationed outside the point of entry/exit of the confined space to observe the permit-required confined space
2. Remaining at the entry point and maintaining two-way communication with the Entrant(s) during entry until relieved by another Attendant, or until the entry is completed or terminated by the Entry Supervisor or Leader
3. Maintaining a sign-in/sign-out log of all individuals entering the confined space
4. Providing standby assistance to Entrants entering the confined space
5. Directing Entrants to exit the confined space when any irregularities are observed
6. Initiating evacuation and emergency procedures
7. Monitoring for any conditions or changes that could adversely affect the entry
8. Preventing unauthorized entry

### ***Entry Team - Entrant***

1. Reading and obeying entry permit requirements
2. Maintaining two-way communication with the Attendant
3. Recognizing potential hazards that may be encountered during the entry
4. Understanding the proper use and limitations of equipment for controlling these hazards
5. Inspecting for hazards not identified by atmospheric monitoring during entry activities
6. Responding to emergencies, including implementing methods for self-rescue or evacuation
7. Recognizing symptoms and warning signs of exposure to potential hazards or prohibited conditions
8. Notifying the Attendant of any symptoms of exposure, emergency or unacceptable condition in the confined space
9. Exiting the confined space immediately if symptoms, warning signs or unacceptable conditions occur or if directed by the Attendant or Entry Supervisor/Leader
10. Inspecting for hazards during entry activities

## **Procedure**

### **Identification of Hazards and Evaluation of Confined Spaces**

#### *Survey*

An HCS designated person(s) will conduct a survey of the property, and all other worksites employees are working at and identify confined spaces. The surveys will be completed from site observations, building blueprints and job hazard analyses, and will include air monitoring to determine the air quality in the confined spaces and identification of hazards.

#### *Inventory*

The potential for engulfment, entrapment, hazardous energy, atmospheres with flammable or explosive potential, oxygen deficiency, and/or the presence of toxic and corrosive material and all other hazards will be documented. This information will also be communicated to all personnel, and appropriate confined space procedures will be developed and followed before entry. An HCS designated person(s) will determine, based on the identified hazards, which confined spaces will be entered and require a permit before entry and which confined spaces will not be entered. Both determinations will be documented on the inventory.

#### *Hazard Reevaluation*

An HCS designated person(s) will identify and reevaluate hazards at least annually, or sooner based on changes in activities or other physical or environmental conditions that could adversely affect work. Any change in designation of a confined space will be routed to all affected personnel.

#### *Hazard Control*

When employees are required to enter confined spaces, HCS will utilize a hierarchy of hazard control techniques first to eliminate and then, if they cannot be eliminated, reduce hazards of confined spaces. The following order of precedence will be followed when eliminating or reducing confined space hazards:

1. **Engineering Controls**: These are controls that eliminate or reduce the hazard through the implementation of approved engineering practices.
2. **Administrative Controls**: These are controls which eliminate or reduce the hazard through changes in work practices including, but not limited to, rotating workers, reducing the amount of worker exposure and housekeeping.
3. **Personal Protective Equipment (PPE)**: If the hazard cannot be eliminated or reduced to a safe level through engineering and/or administrative controls, PPE will be used. An HCS designated person(s) will determine the appropriate PPE needed by all personnel entering the confined space, including rescue teams.

All confined spaces with identified hazards will have a written plan for mitigation of those hazards. The mitigation strategies will be documented on the Permit-Required Confined Space Hazard Mitigation form. The following list outlines hazard categories and example mitigation strategies:

1. **Atmospheric Hazards**: Purging, inerting, flushing or ventilating
2. **External Hazards**: Barricading from pedestrian and vehicle traffic
3. **Internal Hazards**: PPE, communication, lighting, barriers, shields, ladders, rescue equipment

#### **Permit-Required Confined Space Labeling and Security**

Each permit-required confined space shall have one of the following signs on or near the entrance(s) that identifies the space as a permit-required confined space. The specific signage will be determined by an HCS designated person(s) based on the identified hazards that exist within the confined space. Signs will be maintained in a legible condition.



All permit-required confined spaces will be secured from the entry with an appropriate locking device supplied by an HCS designated person(s), or with mechanical fasteners authorized by an HCS designated person(s), which limit casual entry.

### **Reclassifying Permit-required Spaces**

An HCS designated person(s) is the only HCS representative authorized to reclassify a permit-required confined space to a non-permit confined space. Spaces may only qualify for reclassification if they do not contain, or could not potentially contain, atmospheric hazards (as per the inventory and by testing on the day of the reclassification attempt).

To reclassify a space, an HCS designated person(s) must determine and document that all non-atmospheric hazards are eliminated without entry into the space. All reclassifications will be documented on an HCS form. All fields within the form shall be completed and a copy of the completed form will be supplied to all employees entering or to their authorized representative.

If a previously identified and eliminated hazard or a new hazard becomes apparent or active in a reclassified space, all employees shall immediately exit the space and the space will revert to a permit-required confined space.

### **Entry Permits**

A permit-required confined space entry permit process will be used to guide Entry Supervisors, Attendants and Entrants through a systematic evaluation of the permit-required confined space to be entered, and to establish appropriate entry conditions. Before each entry into a permit-required confined space, an entry permit will be completed by the Entry Supervisor. The Entry Supervisor will then communicate the contents of the permit to all employees involved in the operation and post the permit conspicuously near the work location. A standard entry permit form will be used for all entries.

### **Permit Scope and Duration.**

A permit is only valid for one shift. For a permit to be renewed, the following conditions must be met before each reentry into the confined space:

1. Atmospheric testing will be conducted, and the results will be within acceptable limits. If atmospheric test results are not within acceptable limits, effective mitigation precautions to protect Entrants against the atmospheric hazards will be addressed in the permit, be operational and will mitigate the hazard to a level safe for entrance.
2. An HCS designated person(s) will verify that all mitigation precautions and other measures called for on the permit are still in effect and providing protection for the Entrants.
3. Only operations or work originally approved on the original permit will be conducted in the confined space.

A new permit will be issued, or the original permit will be reissued if possible, whenever changing work conditions or work activities introduce new hazards into the confined space.

An HCS designated person(s) will retain each canceled entry permit for at least two years to facilitate the review of the Confined Space Entry Program. Any problems encountered during an

entry operation will be noted on the respective permit(s) so that appropriate revisions to the program can be made.

## **Entry Procedures**

### *Pre-Entry Hazard Assessment*

A hazard assessment will be completed by an HCS designated person(s) before any entry into a confined space. The hazard assessment should identify:

1. The sequence of work to be performed in the confined space
2. The specific hazards are known or anticipated
3. The control measures to be implemented to eliminate or reduce each of the hazards to an acceptable level

No entry will be permitted until the hazard assessment has been reviewed and discussed by all persons engaged in the activity. Employees who are to enter the permit-required confined space will be informed of known or potential hazards associated with it.

When entering into a confined space is necessary, either the Entry Supervisor or an HCS designated person(s) may initiate entry procedures, including—when necessary—the completion of a permit-required confined space entry permit. Entry into a confined space will follow the standard entry procedure below.

### *Permit-Required Standard Entry*

The confined space entry permit will be completed in its entirety before any entry. Entry will be allowed only when all requirements of the permit are met, and the permit has been reviewed and signed by the Entry Supervisor. The following conditions must be met before a standard entry:

1. Affected employees will be proficient in the duties that will be performed within the confined space
2. The internal atmosphere within the confined space will be tested by an HCS designated person(s) with a calibrated, direct-reading instrument
3. Personnel will be provided with necessary PPE as determined by the Entry Supervisor
4. Atmospheric monitoring will take place during the entry. If a hazardous atmosphere is detected during entry:
  - a. Personnel within the confined space will be evacuated by the Attendant(s) or Entry Supervisor until space can be evaluated by an HCS designated person(s) to determine how the hazardous atmosphere developed.
  - b. Controls will be put in place to protect employees before reentry.
5. Confined space hazards will be isolated from the space. Isolation is the protection against the release of active or stored energy and/or material into the space. Isolation will be achieved by the appropriate means as determined by an HCS designated person(s). Options will include:
  - a. Blanking or blinding
  - b. Misaligning or removing sections of lines, pipes or ducts
  - c. A double block and bleed system
  - d. Lockout or tagout of all sources of energy
  - e. Blocking or disconnecting all mechanical linkages

If isolation of the space is infeasible pre-entry, testing will be performed to the extent feasible before entry is authorized. If entry is authorized, entry conditions will be continuously monitored in the areas where authorized Entrants are working.

### *Opening a Confined Space*

Any conditions making it unsafe to remove an entrance cover will be eliminated before the cover is removed. When entrance covers are removed, the opening will be promptly guarded by a railing, temporary cover or other temporary barrier that will prevent anyone from falling through or entering the opening. This barrier or cover will also protect each employee working in the space from foreign objects entering the space. If the opening is in an area with street or pedestrian traffic, barriers capable of diverting or deflecting such traffic will be erected.

HCS will implement necessary measures to prevent unauthorized entry into open confined spaces and will immediately take the following actions when unauthorized persons approach or enter a permit-required space while entry is underway:

1. Warn the unauthorized persons that they must stay away from the permit space
2. Advise the unauthorized persons that they must exit immediately if they have entered the permit space
3. Inform the authorized Entrant(s) and the Entry Supervisor(s) if unauthorized persons have entered the permit space

### *Atmospheric Testing*

Before entry into a permit-required confined space, an HCS designated person(s) will conduct testing for hazardous atmospheres. Atmospheric test data is required and will be done initially, with all existing ventilation systems shut down. Atmospheric testing is required for two distinct purposes:

1. Evaluation of the hazards of the space
2. Verification that acceptable conditions exist for entry into that space

The internal atmosphere will be tested with a calibrated, direct-reading instrument for oxygen, flammable gases and vapors, and potential toxic air contaminants—in that order. The monitor will be verified by a “bump” test before use. If a person must go into the space to obtain the needed data, then standard confined space entry procedures will be followed.

Only testing equipment approved by an HCS designated person(s) will be used for confined space atmospheric testing. All testing equipment used at HCS will be approved by Underwriters Laboratories for use in hazardous atmospheres. All testing instruments will be calibrated monthly. All testing equipment will be sent to the manufacturer for recertification annually. An HCS designated person(s) will maintain instrument maintenance and recertification record.

Each authorized Entrant or employee’s authorized representative will be provided with the results of all testing conducted upon request to an HCS designated person(s). Each authorized Entrant(s) or employee authorized representative will be provided with the opportunity to observe any monitoring or testing of confined spaces. Requests for reevaluation, based on an Entrant(s) or an Entrant’s representative having reason to believe that the evaluation of that confined space may not have been adequate will be made to an HCS designated person(s). Reevaluations will be performed as soon as practicable, and any authorized Entrant(s) or employee’s authorized representative will be given the opportunity to witness the testing.

### **Evaluation Testing**

Initial results of testing for atmospheric hazards will be evaluated and interpreted by an HCS designated person(s). In the absence of an HCS designated person(s), atmospheric testing will be evaluated and interpreted by a pre-determined outside company. Atmospheric testing evaluation and interpretation must be received before filling out the confined space entry permit or any entrance into a permit-required confined space.

## **Verification Testing**

All confined spaces that have been identified as having, or possibly having, a hazardous atmosphere will be tested for residues of all identified or suspected contaminants. The evaluation testing will be conducted at the time of entry to determine if the hazards are within acceptable limits. Results of testing will be recorded by an HCS designated person(s). In the absence of an HCS designated person(s), atmospheric testing will be conducted by a pre-determined outside company. During the time the permit-required confined space is occupied, the atmosphere will be periodically retested (frequency to be determined by an HCS designated person(s) based on the known hazard) to verify that atmospheric conditions remain within acceptable entry parameters.

## **Acceptable Limits**

The atmosphere of a confined space will be considered to be within acceptable limits when the following conditions are met and maintained:

1. Oxygen: 19.5 percent to 23.5 percent
2. Flammability: below 10 percent of the Lower Flammable Limit (LFL) for gases, vapors, mists or combustible dust
3. Toxicity: below the permissible exposure limit (PEL)/threshold limit value (TLV) or time-weighted average (TWA) of a substance

## **Forced Air Ventilation**

When conditions accommodate continuous forced air ventilation as a remedy for atmospheric conditions, the following precautions will be followed:

1. Employees will not enter the space until the forced air ventilation has eliminated any hazardous atmosphere
2. Forced air ventilation will be directed so as to ventilate the immediate areas where an employee is or will be present within the space
3. Continuous ventilation will be maintained until all employees have left the space
4. Air supply or forced air ventilation will originate from a clean source

**If the confined space does not have acceptable entry conditions, entry IS NOT permitted.**

## **Isolation and Lockout/Tagout Safeguards**

All energy sources that are potentially hazardous to confined space Entrants will be secured, relieved, disconnected, and/or restrained before personnel are permitted to enter the confined space. Equipment systems or processes will be locked out and/or tagged out as required by HCS's Lockout/Tagout Program prior to permitting entry into the confined space. In confined spaces where complete energy isolation is not possible, an HCS designated person(s) will evaluate the situation and make provisions to allow as much isolation as practical. Special precautions will be taken when entering double-walled, jacketed or internally insulated confined spaces that may discharge hazardous material through the vessel's internal wall.

When there is a need to test, position or activate equipment by temporarily removing the lockout protections, all Entrants will be removed from the space prior to removal of the safety devices and activation of the systems. Any removal of locks, tags or other protective measures will be done in accordance with our Lockout/Tagout Program.

## **Extraction/Retrieval Protocol**

Each confined space will be evaluated by an HCS designated person(s) to determine an extraction/retrieval protocol. This extraction/retrieval protocol will be documented on a designated form. The written extraction/retrieval protocol will be kept onsite at the confined space location, and all affected personnel will be trained on the emergency response plan.



## **Emergency Response, Evacuation and Rescue**

All individuals entering a permit-required confined space will wear a full-body harness, and the harness will be attached at all times to an appropriate extraction tool allowing the individuals to be retrieved from the confined space at any time without requiring other individuals to enter the confined space. No individual will enter a confined space where an extraction/retrieval protocol has not been established, or when the extraction equipment is not available and used.

If it is determined that extraction/retrieval systems will increase the overall risk of entry or the equipment would not contribute to the rescue of the Entrant, employees will not enter the confined space. Full-body harnesses will have a retrieval line attached at the center of the back near shoulder level or above the head. If harnesses are not feasible or would create a greater hazard, employees will not enter the confined space. The retrieval line will be firmly fastened outside the space so that rescue can begin as soon as personnel are aware that retrieval is necessary. A mechanical device will be available to retrieve personnel from vertical confined spaces more than five feet deep.

## **Employee Training**

HCS will develop, maintain and provide training to each affected employee whose work is regulated by the Confined Space Program. The training will provide the understanding, knowledge and skills necessary to safely perform required work in confined spaces. Training will be conducted:

1. Before the employee is first assigned duties involving confined spaces
2. Before there is a change in an affected employee's assigned duties
3. When there is a change in a permit-required confined space operation that presents new hazards not previously covered in training
4. When HCS has reason to believe that there are deviations from the permit-required confined space entry procedures, or that there are inadequacies in the employee's knowledge or use of these procedures

## **General Training Requirements**

All affected employees will receive training on the following general information:

1. Specific hazards associated with the confined space to be entered
2. Personal protective equipment selected for the hazard(s), including proper use, inspection, care and maintenance, limitations and other applicable safety instructions
3. The permit system and other procedural requirements for conducting a confined space entry
4. Responding to emergencies
5. Duties and responsibilities of confined space entry team members
6. How to recognize probable air contaminant overexposure symptoms in themselves as well as co-workers, and methods for alerting assigned Attendants

## **Training for Attendants**

In addition to the general training requirements above, Attendants will also be trained on the following:

1. Duties, responsibilities and procedures for both routine and emergency operations
2. Hazards that may be encountered by Entrants and the signs and symptoms of overexposure
3. Procedures for summoning rescue or other emergency services
4. Proper use of the equipment used for communicating with Entry and Rescue Personnel
5. Performance of non-entry retrievals

### **Verification of Training**

Periodic assessment of the effectiveness of employee training will be conducted by an HCS designated person(s). Refresher training will be conducted as needed to maintain employee competence in entry procedures and precautions. Training records will be documented on HCS's Employee Training Record form. Written training records will be retained by an HCS designated person(s) and be periodically reviewed to ensure proper follow-up for refresher training.

### **Outside Contractors**

Whenever outside personnel are contracted to perform work that involves confined space entry, HCS will inform the contractors about any relevant confined spaces, including:

1. The classification of the space (permit-required or non-permit)
2. The hazards and operations within or near the space
3. HCS experiences with the space
4. Any precautions or procedures that were implemented for the protection of employees in or near the confined space

HCS will evaluate potential contractors to ensure they have the appropriate qualifications for the full scope of work to be performed, including a confined space safety program. Contractors will ensure a permit-required confined space program is being followed.

The contractor will establish who will serve as the rescue responder, in conjunction with an HCS designated person(s), in an emergency and what system will be used to notify the responder that an emergency exists. When both HCS and contractor employee (s) will be working in or near a permit-required confined space, the two parties will coordinate their activities to ensure all entry roles are complementary with HCS as the lead.

The contractor must inform us immediately of any hazards encountered or created during the course of entry. At the conclusion of all entry operations, a debriefing will be held with an HCS designated person(s) to discuss any additional hazards or problems encountered and corrective measures to be taken prior to future entry.

### **Periodic Program Review**

The confined space program and procedures will be reviewed annually.



## Section 31 – Respirator Program

### Regulation

General Industry 29 CFR 1910.134  
Construction: 29 CFR 1926.103

### Purpose

HCS's Respiratory Protection Program is designed to protect employees by establishing accepted practices for respirator use, providing guidelines for training and respirator selection, and explaining proper storage, use and care of respirators. This program also serves to help HCS and its employees comply with Occupational Safety and Health Administration (OSHA) respiratory protection requirements as found in 29 CFR 1910.134.

### Responsibilities

HCS

- Provide respirators to employees when necessary at no charge
- Cover any expense associated with training, medical evaluations and equipment

#### *HCS Designated Program Administrator*

1. Administrator the respiratory protection program
2. Identifying work areas, process or tasks that require workers to wear respirators
3. Evaluating hazards
4. Selecting respiratory protection options
5. Monitoring respirator use to ensure that respirators are used in accordance with their specifications
6. Arranging for and/or conducting training
7. Ensuring proper storage and maintenance of respiratory protection equipment
8. Conducting qualitative fit testing
9. Administering the medical surveillance program
10. Maintaining records required by the program
11. Evaluating the program
12. Updating written program, as needed

#### *Supervisors/Department Head*

1. Ensure program is implemented in their work area
2. Ensuring that employees under their supervision, including new hires receive appropriate training, fit testing, and annual medical evaluation
3. Ensuring the availability of appropriate respirators and accessories
4. Being aware of tasks requiring the use of respiratory protection
5. Enforcing the proper use of respiratory protection when necessary
6. Ensuring that respirators are properly cleaned, maintained, and stored according to this program
7. Ensuring that respirators fit well and do not cause discomfort
8. Continually monitoring work areas and operations to identify respiratory hazards
9. Coordinating with the Program Administrator on how to address respiratory hazards or other concerns regarding this program

#### *Employees*

1. Each employee is responsible for wearing his or her respirator when and where required and in the manner in which they are trained.
2. Care for and maintain their respirators as instructed, guard them against damage, and store them in a clean, sanitary location.
3. Inform their supervisor if their respirator no longer fits well and request a new one that fits properly.
4. Inform their supervisor or the Program Administrator of any respiratory hazards that they feel are not adequately addressed in the workplace and of any other concerns that they have regarding this program.
5. Use the respiratory protection in accordance with the manufacturer's instructions and the training received.

### **General Procedure**

1. Atmospheric contamination will be prevented wherever feasible through engineering controls such as enclosure or confinement of the operation, general and local exhaust ventilation, or substitution of less toxic materials. When effective engineering controls are not feasible, or while they are being instituted, appropriate respirators shall be used.
2. HCS shall identify and evaluate the respiratory hazard(s) in the workplace; this evaluation shall include a reasonable estimate of employee exposures to respiratory hazard(s) and an identification of the contaminant's chemical state and physical form. Where we cannot identify or reasonably estimate the employee exposure, the atmosphere shall be considered to be immediately dangerous to life or health (IDLH).
3. Respirators shall be provided when such equipment is necessary to protect the health of the employee.
4. Only NIOSH-certified respirators shall be used. The respirator shall be used in compliance with the conditions of its certification.
5. HCS will provide respirators that are applicable and suitable for the purpose intended. We shall select and provide an appropriate respirator based on the respiratory hazard(s) to which the worker is exposed and workplace and user factors that affect respirator performance and reliability.
6. Respirators shall be selected from a sufficient number of respirator models and sizes so that the respirator is acceptable to, and correctly fits, the user.
7. The safety program administrator is qualified by appropriate training or experience that is commensurate with the complexity of the program to administer or oversee the respiratory protection program and conduct the required evaluations of program effectiveness.
8. HCS will provide respirators, training, and medical evaluations at no cost to the employee.
9. HCS will provide a medical evaluation to determine the employee's ability to use a respirator, before the employee is fit tested or required to use the respirator in the workplace. We may discontinue an employee's medical evaluations when the employee is no longer required to use a respirator.
10. HCS will ensure that employees using a tight-fitting face piece respirator pass an appropriate qualitative fit test (QLFT) or quantitative fit test (QNFT).
11. HCS will establish and implement procedures for the proper use of respirators. These requirements include prohibiting conditions that may result in face piece seal leakage, preventing employees from removing respirators in hazardous environments, taking actions to ensure continued effective respirator operation throughout the work shift, and establishing procedures for the use of respirators in IDLH atmospheres.
12. We shall provide each respirator user with a respirator that is clean, sanitary, and in good working order. The Supervisor or Manager shall ensure that respirators are cleaned and disinfected.
13. All filters, cartridges and canisters used in the workplace must be legibly labeled and color-coded with the NIOSH approval label that must not be removed.

14. Training and information will be provided to employees who are required to use respirators. The training will be comprehensive, understandable, and recur annually, or more often if necessary.
15. The safety program administrator shall conduct evaluations of the workplace to ensure that the written respiratory protection program is being properly implemented, and to consult with employees to ensure that they are using the respirators properly.
16. Written information regarding medical evaluations, fit testing, and the respirator program shall be retained indefinitely. This information will facilitate employee involvement in the respirator program, assist us in auditing the adequacy of the program, and provide a record for compliance determinations by OSHA.
17. Where respirator use is not required by a particular standard or hazard, HCS may provide respirators at the request of employees or permit employees to use their own respirators, if we determine that such respirator use will not in itself create a hazard. If voluntary respirator use is permissible, we shall provide the respirator users with the information contained in Appendix D of section 5144 8CCR. ("Information for Employees Using Respirators When Not Required Under the Standard.")

### **Respirator Selection Requirements**

1. The proper respirator for the job and hazard shall be selected. This selection will be made in accordance with ANSI Z88.2-1980 standards. The correct respirator shall be specified for each job. The individual issuing them shall be adequately instructed to ensure that the correct respirator is used.
2. The manufacturers' recommendations and literature will also be reviewed to determine if the respirator provides protection against the expected contaminants. For instance, dust masks do not provide protection against gasses or vapors.
3. The safety program administrator or another qualified individual shall review and approve all breathing air compressors and installations for compliance with appropriate OSHA regulations and safety procedures prior to use.

#### *Respirators for IDLH atmospheres*

HCS will provide the following respirators for employee use in IDLH atmospheres:

1. A full-face piece pressure demand SCBA certified by NIOSH for a minimum service life of thirty minutes, or
2. A combination full face piece pressure demand supplied-air respirator (SAR) with auxiliary self-contained air supply.
3. Respirators provided only for escape from IDLH atmospheres shall be NIOSH-certified for escape from the atmosphere in which they will be used.
4. All oxygen-deficient atmospheres shall be considered IDLH.

#### *Respirators for atmospheres that are not IDLH*

HCS will provide a respirator that is adequate to protect the health of the employee and ensure compliance with all other OSHA statutory and regulatory requirements, under routine and reasonably foreseeable emergency situations. The respirator selected shall be appropriate for the chemical state and physical form of the contaminant.

#### *For protection against gases and vapors:*

1. An atmosphere-supplying respirator
2. An air-purifying respirator, provided that the respirator is equipped with an end-of-service-life indicator (ESLI) certified by NIOSH for the contaminant; or if there is no ESLI appropriate for conditions in the workplace, we will implement a change schedule for canisters and cartridges that is based on objective information or data that will ensure that canisters and cartridges are changed before the end of their service life.

#### *For protection against particulates:*

1. An atmosphere-supplying respirator; or
2. An air-purifying respirator equipped with a filter certified by NIOSH under 30 CFR part 11 as a high efficiency particulate air (HEPA) filter, or an air-purifying respirator equipped with a filter certified for particulates by NIOSH under 42 CFR part 84; or
3. For contaminants consisting primarily of particles with mass median aerodynamic diameters (MMAD) of at least 2 micrometers, an air-purifying respirator equipped with any filter certified for particulates by NIOSH.

### **Medical Evaluation Procedures**

1. Employees shall not be assigned to tasks requiring the use of respirators unless it has been determined that they are physically able to perform the work while using the required respiratory equipment.
2. HCS will identify a physician or other licensed health care professional (PLHCP) to perform medical evaluations. HCS may utilize an online medical questionnaire for employees if a local physician cannot be identified.
3. The medical evaluation shall include any medical tests, consultations, or diagnostic procedures that the PLHCP deems necessary to make a final determination.
4. Medical questionnaires and examinations shall be administered confidentially during the employee's normal working hours or at a time and place convenient to the employee.
5. The employee shall have an opportunity to discuss the examination results with the PLHCP.
6. The following information must be provided to the PLHCP before the PLHCP makes a recommendation concerning an employee's ability to use a respirator:
  - a. The type and weight of the respirator to be used by the employee
  - b. The duration and frequency of respirator use, including use for rescue and escape
  - c. The expected physical work effort
  - d. Additional protective clothing and equipment to be worn
  - e. Temperature and humidity extremes that may be encountered
7. HCS will provide the PLHCP with a copy of this written respiratory protection program and a copy of the OSHA regulations if they do not already have them.
8. In determining the employee's ability to use a respirator, HCS shall obtain a written recommendation regarding the employee's ability to use the respirator from the PLHCP. The recommendation shall provide only the following information:
  - a. Any limitations on respirator use related to the medical condition of the employee, or relating to the workplace conditions in which the respirator will be used, including whether or not the employee is medically able to use the respirator
  - b. The need, if any, for follow-up medical evaluations
  - c. A statement that the PLHCP has provided the employee with a copy of the PLHCP's written recommendation
9. If the respirator is a negative pressure respirator and the PLHCP finds a medical condition that may place the employee's health at increased risk if the respirator is used, HCS shall provide a powered air purifying respirator (PAPR) if the PLHCP's medical evaluation finds that the employee can use such a respirator; if a subsequent medical evaluation finds that the employee is medically able to use a negative pressure respirator, then we are no longer required to provide a PAPR.
10. HCS will provide additional medical evaluations that comply with the requirements of this section if:
  - a. An employee reports medical signs or symptoms that are related to ability to use a respirator
  - b. A PLHCP, supervisor, or the respirator program administrator informs the employer that an employee needs to be reevaluated
  - c. Information from the respiratory protection program, including observations made during fit testing and program evaluation, indicates a need for employee reevaluation

- d. A change occurs in workplace conditions such as, physical work effort, protective clothing, temperature that may result in a substantial increase in the physiological burden placed on an employee

### **Fit Testing**

1. HCS will ensure that an employee using a tight-fitting face piece respirator is fit tested prior to initial use of the respirator, whenever a different respirator face piece size is used, and at least annually thereafter.
2. We shall conduct an additional fit test whenever the employee reports, or the employer, PLHCP, supervisor, or program administrator makes visual observations of, changes in the employee's physical condition that could affect respirator fit. Such conditions include, but are not limited to, facial scarring, dental changes, cosmetic surgery, or an obvious change in body weight.
3. If after passing a QLFT or QNFT, the employee subsequently notifies the program administrator, supervisor, or PLHCP that the fit of the respirator is unacceptable, the employee shall be given a reasonable opportunity to select a different respirator face piece and to be retested.
4. The fit test shall be administered using an OSHA-accepted QLFT or QNFT protocol.

### **Usage Rules**

1. HCS will not permit respirators with tight-fitting face pieces to be worn by employees who have:
  - a. Facial hair that comes between the sealing surface of the face piece and the face or that interferes with valve function; or
  - b. Any condition that interferes with the face-to-face piece seal or valve function.
2. If an employee wears corrective glasses or goggles or other personal protective equipment, we shall ensure that such equipment is worn in a manner that does not interfere with the seal of the face piece to the face of the user.
3. For all tight-fitting respirators, we shall ensure that employees perform a user seal check each time they put on the respirator.
4. Appropriate surveillance shall be maintained of work area conditions and degree of employee exposure or stress. When there is a change in work area conditions or degree of employee exposure or stress that may affect respirator effectiveness, we shall reevaluate the continued effectiveness of the respirator.
5. Respiratory equipment shall not be passed on from one person to another until it has been cleaned and sanitized. Respirators individually assigned should be marked to indicate to whom it was assigned.
6. This mark shall not affect the respirator performance in any way. The date of issuance should be recorded.
7. When not in use, respirators shall be stored to protect against dust, sunlight, extreme temperatures, excessive moisture, or damaging chemicals. Plastic zip lock bags are suitable for storage.
8. HCS will ensure that employees leave the respirator use area:
  - a. To wash their faces and respirator face pieces as necessary to prevent eye or skin irritation associated with respirator use; or
  - b. If they detect vapor or gas breakthrough, changes in breathing resistance, or leakage of the face piece; or
  - c. To replace the respirator or the filter, cartridge, or canister elements.
9. If the employee detects vapor or gas breakthrough, changes in breathing resistance, or leakage of the face piece, we will replace or repair the respirator before allowing the employee to return to the work area.
10. For all IDLH atmospheres, HCS shall ensure that:
  - a. One employee or, when needed, more than one employee is located outside the IDLH atmosphere;

- b. Visual, voice, or signal line communication is maintained between the employee(s) in the IDLH atmosphere and the employee(s) located outside the IDLH atmosphere;
- c. The employee(s) located outside the IDLH atmosphere are trained and equipped to provide effective emergency rescue;
- d. The Supervisor or designee is notified before the employee(s) located outside the IDLH atmosphere enter the IDLH atmosphere to provide emergency rescue;
- e. The Supervisor or designee authorized to do so by HCS, once notified, provides necessary assistance appropriate to the situation;
- f. Employee(s) located outside the IDLH atmospheres are equipped with pressure demand or other positive pressure SCBAs, or a pressure demand or other positive pressure supplied-air respirator with auxiliary SCBA; and either appropriate retrieval equipment for removing the employee(s) who enter(s) these hazardous atmospheres where retrieval equipment would contribute to the rescue of the employee(s) and would not increase the overall risk resulting from entry; or equivalent means for rescue where retrieval equipment is not required.

### **Maintenance, Inspection and Care of Respirators**

1. HCS will ensure that respirators are cleaned and disinfected using procedures recommended by the respirator manufacturer, provided that such procedures are of equivalent effectiveness to OSHA regulations. The respirators shall be cleaned and disinfected at the following intervals:
  - a. Respirators issued for the exclusive use of an employee shall be cleaned and disinfected as often as necessary to be maintained in a sanitary condition;
  - b. Respirators issued to more than one employee shall be cleaned and disinfected before being worn by different individuals;
  - c. Respirators maintained for emergency use shall be cleaned and disinfected after each use; and
  - d. Respirators used in fit testing and training shall be cleaned and disinfected after each use.
2. All respirators shall be stored to protect them from damage, contamination, dust, sunlight, extreme temperatures, excessive moisture, and damaging chemicals, and they shall be packed or stored to prevent deformation of the face piece and exhalation valve.
3. Emergency respirators shall be:
  - a. Kept accessible to the work area
  - b. Stored in compartments or in covers that are clearly marked as containing emergency respirators
  - c. Stored in accordance with any applicable manufacturer instructions
4. All respirators used in routine situations shall be inspected before each use and during cleaning;
5. All respirators maintained for use in emergency situations shall be inspected at least monthly and in accordance with the manufacturer's recommendations, and shall be checked for proper function before and after each use;
6. Emergency escape-only respirators shall be inspected before being carried into the workplace for use.
7. HCS will ensure that respirator inspections include the following:
  - a. A check of respirator function, tightness of connections, and the condition of the various parts including, but not limited to, the face piece, head straps, valves, connecting tube, and cartridges, canisters or filters
  - b. A check of elastomeric parts for pliability and signs of deterioration.
8. In addition to the requirements above, self-contained breathing apparatus shall be inspected monthly.
9. Air and oxygen cylinders shall be maintained in a fully charged state and shall be recharged when the pressure falls to 90% of the manufacturer's recommended pressure level. The employer shall determine that the regulator and warning devices function properly.
10. For respirators maintained for emergency use, HCS shall:



- a. Certify the respirator by documenting the date the inspection was performed, the name of the person who made the inspection, the findings, required remedial action, and a serial number or other means of identifying the inspected respirator.
  - b. Provide this information on a tag or label that is attached to the storage compartment for the respirator, is kept with the respirator, or is included in inspection reports stored as paper or electronic files. This information shall be maintained until replaced following a subsequent certification.
11. Repairs. HCS will ensure that respirators that fail an inspection or are otherwise found to be defective are removed from service, and are discarded or repaired or adjusted in accordance with the following procedures:
- a. Repairs or adjustments to respirators are to be made only by persons appropriately trained to perform such operations and shall use only the respirator manufacturer's NIOSH-approved parts designed for the respirator;
  - b. Repairs shall be made according to the manufacturer's recommendations and specifications for the type and extent of repairs to be performed; and
  - c. Reducing and admission valves, regulators, and alarms shall be adjusted or repaired only by the manufacturer or a technician trained by the manufacturer.

### **Training**

HCS will ensure that each employee required to use a respirator can demonstrate knowledge of at least the following:

1. Why the respirator is necessary and how improper fit, usage, or maintenance can compromise the protective effect of the respirator
2. What the limitations and capabilities of the respirator are
3. How to use the respirator effectively in emergency situations, including situations in which the respirator malfunctions
4. How to inspect, put on and remove, use, and check the seals of the respirator
5. What the procedures are for maintenance and storage of the respirator
6. How to recognize medical signs and symptoms that may limit or prevent the effective use of respirators

The training shall be conducted in a manner that is understandable to the employee.

The training shall be provided prior to requiring the employee to use a respirator in the workplace.

Retraining shall be administered annually, and when the following situations occur:

- Changes in the workplace or the type of respirator render previous training obsolete;
- Inadequacies in the employee's knowledge or use of the respirator indicate that the employee has not retained the requisite understanding or skill; or
- Any other situation arises in which retraining appears necessary to ensure safe respirator use.

### **Program Evaluation**

1. The safety program administrator shall conduct evaluations of the workplace as necessary to ensure that the provisions of the current written program are being effectively implemented and that it continues to be effective.
2. The safety program administrator shall regularly consult employees required to use respirators to assess the employees' views on program effectiveness and to identify any problems. Any problems that are identified during this assessment shall be corrected. Factors to be assessed include, but are not limited to:
  - a. Respirator fit, including the ability to use the respirator without interfering with effective workplace performance

- b. Appropriate respirator selection for the hazards to which the employee is exposed
- c. Proper respirator use under the workplace conditions the employee encounters; and
- d. Proper respirator maintenance

### **Recordkeeping**

1. Records of medical evaluations must be retained and made available to regulatory agencies.
2. HCS shall establish a record of the qualitative and quantitative fit tests administered to an employee including:
  - a. The name or identification of the employee tested
  - b. Type of fit test performed
  - c. Specific make, model, style, and size of respirator tested
  - d. Date of test
  - e. The pass/fail results for QLFTs or the fit factor and strip chart recording or other recording of the test results for QNFTs
  - f. Fit test records shall be retained for respirator users until the next fit test is administered
3. Program records shall be made available upon request to affected employees and to governing or regulatory agencies for examination and copying.

### **Procedures for Cleaning Respirators**

1. Remove filters, cartridges, or canisters. Disassemble face pieces by removing speaking diaphragms, demand and pressure-demand valve assemblies, hoses, or any components recommended by the manufacturer. Discard and replace any defective parts.
2. Wash components in warm (43 deg. C [110 deg. F] maximum) water with a mild detergent or with a cleaner recommended by the manufacturer. A stiff bristle (not wire) brush may be used to facilitate the removal of dirt.
3. Rinse components thoroughly in clean, warm (43 deg. C [110 deg. F] maximum), preferably running water. Drain.
4. When the cleaner used does not contain a disinfecting agent, respirator components should be immersed for two minutes in one of the following:
  - a. Hypochlorite solution (50 ppm of chlorine) made by adding approximately one milliliter of laundry bleach to one liter of water at 43 deg. C (110 deg. F); or,
  - b. Aqueous solution of iodine (50 ppm iodine) made by adding approximately 0.8 milliliters of tincture of iodine (6-8 grams ammonium and/or potassium iodide/100 cc of 45% alcohol) to one liter of water at 43 deg. C (110 deg. F); or,
  - c. Other commercially available cleansers of equivalent disinfectant quality when used as directed, if their use is recommended or approved by the respirator manufacturer.
5. Rinse components thoroughly in clean, warm (43 deg. C [110 deg. F] maximum), preferably running water. Drain. The importance of thorough rinsing cannot be overemphasized. Detergents or disinfectants that dry on face pieces may result in dermatitis. In addition, some disinfectants may cause deterioration of rubber or corrosion of metal parts if not completely removed.
6. Components should be hand-dried with a clean lint-free cloth or air-dried.
7. Reassemble face piece, replacing filters, cartridges, and canisters where necessary.
8. Test the respirator to ensure that all components work properly.

### **Mandatory Information for Employees Using Respirators When Not Required**

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 be sure 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.



## Section 32 – Welding/Cutting/Hot Work

### Regulation

OSHA 29 CFR 1910.251-257 – General Industry  
OSHA 29 CFR 1926.350-354 – Construction Industry

### Purpose

The purpose of this safety policy and procedure is to establish guidelines and procedures through which HCS employees receive the training and proper equipment needed to safely perform welding operations. This program affects all employees who are exposed by their job duties to welding and torch cutting operations.

### Scope and Application

The welding process joins metal parts. Welding processes require heat and sometimes other substances to produce the weld. Byproducts resulting from the welding process include fumes and gases which can be serious health hazards to employees. Additionally, safety hazards can exist such as the potential for fire or explosion and injuries from arc radiation, electrical shock, or materials handling. Welding operations will be performed only by authorized and trained employees.

### Duties and Responsibilities

#### *Management/Program Administrator*

1. Evaluate the hazard assessment for the plan
2. Develop and secure proper employee training
3. Annually review the effectiveness of this program
4. Purchase all proper employee PPE

#### *Department Heads/Foreman:*

1. Coordinate and train all affected HCS employees
2. Selection and use of proper PPE
3. Ensure safe handling of welding and torch cutting equipment
4. Ensure fire prevention during welding and torch cutting processes
5. Ensure all welding equipment, including cables, line and all accessories are in good working condition
6. Remove any damaged equipment from service and have it repaired
7. Be responsible for the safe handling of the cutting or welding equipment and the safe use of the cutting or welding process.
8. Determine the combustible materials and hazardous areas present or likely to be present in the work location.
9. Protect combustibles from ignition by the following:
  - a. Have the work moved to a location free from dangerous combustibles.
  - b. If the work cannot be moved, have the combustible moved to a safe distance from the work or have the combustibles properly shielded against ignition.
  - c. See that cutting and welding are so scheduled that plant operations that might expose combustibles to ignition are not started during cutting or welding.
10. Secure authorization for the cutting or welding operations from HCS's designated person.
11. Determine that the cutter or welder secures his approval that conditions are safe before going ahead.

12. Determine that fire protection and extinguishing equipment are properly located at the site.
13. Where fire watches are required, he/she shall see that they are available at the site.

#### *Hot Work Approver*

1. Determining if the work can be completed or moved to a designated hot work area
2. If the work cannot be moved, ensuring all combustible materials in the vicinity are removed
3. If all combustible materials cannot be removed, ensuring that guards are in place to confine the heat, sparks, and slag.
4. Inspecting hot work areas and reviewing planned safety precautions before hot work operations begin
5. Communicating to employees regarding hot work activities to ensure their safety
6. If approval for hot work is granted, issuing and posting hot work permits which list all required precautions
7. Establishing a fire watch during and for no less than 30 minutes after completion of the hot work

#### *Fire Watch Personnel*

A fire watch is a designated employee who monitors the hot work area for fires while work is being performed and for 30 minutes after its completion. Duties of the fire watch personnel include:

1. Maintaining continuous watch over hot work activity during and for 30 minutes after work has been completed
2. Monitoring adjacent areas for fires
3. Extinguishing small, controllable fires with extinguishing equipment available in a hot work area
4. Activating fire alarm if an uncontrollable fire occurs
5. Signing the hot work permit 30 minutes after the work is complete and re-posting signed permit in a hot work area
6. After the hot work and mandatory 30- minute monitoring period is complete, periodically returning to the area where the hot work was completed to check for fires for three hours
7. Ensuring that the supervisor has conducted a final inspection after the fire watch period has concluded and signs off on the permit
8. Having a supervisor find another trained person to relieve him/her if the designated individual must leave for any reason

#### *Employees*

1. Ensure all fire prevention and fire protection measures have been taken before any torch cutting or welding begin
2. Ensure all PPE's is worn properly for the specific hazard involved
3. Ensure all equipment is in good working condition
4. Responsible for bringing hazards to the attention of his/her supervisor for correction as soon as the hazard is recognized

#### **Definitions**

*Approved* – Listed or approved by a nationally recognized testing laboratory.

*Confined Space* – A space that is not designed for human occupancy, has limited openings for entry and exit, may lack adequate ventilation and may contain or produce dangerous air contamination.

*Hazardous* - Any act, condition, or substance which poses health and safety risks to employees.

*Hot Work Permit* - A permit allowing employees to perform work involving welding, cutting, or any task that would, deplete oxygen, create toxic fumes and vapors, or create the potential for fire or explosion.

*Pulmonary* - Anybody function related to the lungs.

*Welder/Welding Operator* – Any operator of electric or gas welding and cutting equipment.

## **Types of Welding**

The most common welding operations include:

- TIG
- Gas welding and cutting
- Arc welding and cutting
- Resistance welding
- Plasma

The gas welding process unites metals by heating. The gases commonly used as the fuel gas are oxygen and acetylene. The gas cutting process removes metal by a chemical reaction of the base metal with oxygen at an elevated temperature.

The arc welding and cutting process use electric current and two welding leads. One welding lead is connected to the electric power supply while the other lead is attached to the work surface.

Resistance welding is a metal-joining process where welding heat is generated at the joint by the resistance to the flow of electric current.

## **Hazards of Welding**

The hazards associated with welding include health and safety hazards. Health hazards are primarily respiratory hazards due to the generation of fumes and gases. Safety hazards are generally physical hazards due to the worksite and conditions and materials associated with the worksite.

### *Health Hazards*

Associated with the generation of fumes and gases depend upon the welding process, the base material, the filler material, and the shielding gas if any. Health hazards include exposure to:

1. Toxic gases
2. Primary pulmonary gases
3. Non-pulmonary gases
4. Particulate matter
5. Irritants and toxic inhalants

Air sampling may be required to identify the fumes and gases emitted from a specific operation.

### *Safety Hazards*

Associated with welding operations include:

1. Fire
2. Proximity to combustible materials
3. Hazardous locations as rooms containing flammable or combustible vapors
4. Closed containers that have held flammable liquids or other combustibles
5. Electric shock
6. Infrared and ultraviolet eye damage

## **Safe Work Practices**

1. Placing work at an optimal height to avoid back strain or shoulder fatigue
2. Using fall protection equipment for work on elevated surfaces more than 6 feet above the floor or ground surface
3. Wearing personal protective equipment (PPE) as applicable for the work conditions
4. Following special precautions when welding or cutting in a confined space
5. Posting warning signs to mark just-completed welding or cutting surfaces
6. Following safe housekeeping principles
7. Using equipment as directed by the manufacturer instructions or practices

8. Removing any butane lighters, matches, or other combustibles from pockets before performing work
9. Not performing welding work with oily clothing. Leathers may need to be worn over clothing.
10. Following fire protection and prevention practices during the welding operation
11. Using proper ventilation techniques during welding operations
12. Cutting or welding shall be permitted only in areas that are or have been made fire safe. When work cannot be moved practically, as in most construction work, the area shall be made safe by removing combustibles or protecting combustibles from the ignition.

### **Special Precautions**

Where any of the following conditions exist, additional precautions shall also be taken above the basic precautions. The final protection measures will be determined by the hot work approver before beginning work.

#### *Floor Openings/Coverings*

The floors shall be protected from exposure to flames, sparks, slag, or other hot materials whenever there are combustible floors or materials on the floor, floor openings or cracks in the floors. Protections may include:

1. Fire-resistant shields or material
2. Wetting down floors
3. Covering floors with damp sand
4. Sweeping combustibles from floor
5. Additional protections deemed necessary by the hot work approver

#### *Wall Openings*

The walls shall be protected from exposure to flames, sparks, slag, or other hot materials whenever there are combustible walls, wall openings, pipe penetrations or ducts. Protections may include:

1. Fire-resistant shields or materials
2. Shutting dampers
3. Separate fire watch on the other side of the walls
4. Additional protections deemed necessary by the hot work approver

#### *Potentially Explosive Atmospheres*

If there is a potential for mixtures of flammable gases, vapors, liquids or dust in the air, no hot work will be conducted until the Program Administer has completed a review and air monitoring has confirmed that there is no danger of an explosion.

#### *Containers*

No hot work will be performed on used drums, barrels, tanks, or other container until they have been cleaned thoroughly. The hot work approver must determine that no flammable materials and no substance such as greases, tars, acids or other material which might produce flammable or toxic vapors if exposed to heat are present.

### **Equipment**

All tools and equipment used to perform hot work operations will be inspected before use. No person should use any tool or equipment unless trained. All safety precautions as outlined in the Welding and Cutting Safety Program will be followed at all times.

### **Fire Prevention**

1. Before starting to burn or weld, the work area around and below must be inspected to ensure that sparks or molten metal will not fall on workers or flammable/combustible materials. Certain project sites may require hot work permits before any flame or spark producing work being performed.

2. Areas where welding and cutting operations are performed shall be kept clean, and all accumulations of trash, rags, and other flammable/combustible materials shall be removed. Consideration must be given to the distance that sparks and slag can travel.
3. If the object to be welded or cut cannot be moved, all movable fire hazards in the vicinity shall be taken to a safe place. If the object to be welded or cut cannot be moved, and if all the 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 not possible to move or guard all fire hazards then welding and cutting work shall not be performed.
4. A suitable fire extinguisher with a rating of at least #10ABC must be maintained in the work area accessible to the welder. (Refer to Section 14)
5. A Fire watch is required whenever welding or cutting is performed in locations where sparks or molten metal has the possibility of contacting ignitable materials, or any of the following conditions exist:
  - a. Appreciable combustible material, in building construction or contents, closer than 35 feet (10.7 m) to the point of operation.
  - b. Appreciable combustibles are more than 35 feet (10.7 m) away but are easily ignited by sparks.
  - c. Wall or floor openings within a 35-foot (10.7 m) radius expose combustible material in adjacent areas including concealed spaces in walls or floors.
  - d. Combustible materials are adjacent to the opposite side of metal partitions, walls, ceilings, or roofs and are likely to be ignited by conduction or radiation.
6. Assigned fire watch personnel shall have fire extinguishing equipment readily available, be instructed as to the anticipated fire hazards, the use of firefighting equipment to be used and be familiar with the procedures for sounding an alarm in the event of a fire. They shall watch for fires in all exposed areas, try to extinguish them only when obviously within the capacity of the equipment available, or otherwise sound the alarm. A fire watch shall be maintained for at least a half-hour after completion of welding or cutting operations to detect and extinguish possible smoldering fires.
7. Drums, vessels, containers, or hollow structures, which have contained toxic or flammable substances, shall be thoroughly cleaned, ventilated, and tested before any welding, burning or heating.
8. When cutting and welding operations are performed above gratings, decks, or near the floor and wall openings; suitable protective measures must be used to prevent the sparks and slag from being directed through the nearby openings. Do not allow hot slag to remain on surfaces long enough to cause combustion or damage.
  - a. Sparks and slag must be contained in congested work areas.
  - b. Fire-resistant blankets, tarps or other similar protective coverings shall be used to contain sparks or molten metal on floor gratings and open floor or wall openings.
  - c. When it is impossible to contain sparks and slag, the danger area shall be barricaded.
9. All hoses, fittings, leads, torches, and regulators shall be inspected daily before use. Damaged or defective equipment shall be removed from service.
10. Before welding, cutting, or heating any surface covered by a protective coating, the flammability and toxicity of the coating must be determined. Flammable or toxic coatings must be stripped back or removed a sufficient distance away from the area to be heated to prevent ignition or the release of toxic fumes. Additional safety measures, such as respiratory protection may be required.

### **General Requirements**

The Plant Manager or his/her designee is responsible for inspecting and approving all welding and cutting areas to ensure the areas meet the requirements of this section before the start of work.

1. No welding or cutting is to be done on a closed vessel or tank, which has not been properly cleaned and tested for hazardous, combustible, or toxic contaminants. (Refer to Confined



Space Entry Section 30)

2. Welding and cutting equipment shall be inspected before use. Flashback devices shall be installed attached between the regulators on both the oxygen and acetylene hoses.
3. Work areas shall be inspected for flammable solvents, vapors, and gases.
4. Flammable and combustible materials shall be removed.
5. Suitable fire extinguishing equipment shall be available in the work area.
6. A fire watch will be posted during welding/cutting operations and for a one-half hour following these operations, when conditions make it appropriate. The fire watch shall be trained in the use of the fire extinguisher.
7. A welding and cutting permit, if required for your work area, shall be obtained and site welding and cutting guidelines followed.
8. Identify if work will be in a confined space if so follow confined space and entry work procedures.
9. Identify the type of metal to be worked on and protective coatings that have been applied.
10. Identify what type of respiratory protection is required, if applicable, and other types of personal protective equipment to be used.
11. The contents of drums, tanks, barrels, piping, or other containers shall be ascertained. Containers shall be thoroughly cleaned so that no flammable vapors will be present.
12. Employees should be alerted for potential hazards created by other employees in the work area.
13. Adequate ventilation (natural or mechanical) must be provided for all welding, cutting, brazing, and other related operations.
14. Welding, burning, and heating performed in confined spaces require general mechanical or local exhaust ventilation to reduce the concentrations of smoke and fumes to acceptable levels.
15. If adequate ventilation cannot be provided, employees must be provided with and required to use proper respiratory protective equipment.
16. When sufficient ventilation cannot be obtained without blocking the means of access, employees must be provided with and required to use proper respiratory protective equipment.
17. Employees welding, cutting, or heating metals of toxic significance shall use airline or other approved filter-type respiratory protection. (See Section 31 Respiratory Protection Program).

The following components, which can be found in metals and coatings, have Permissible Exposure Limits. If these materials are encountered in welding, cutting or brazing operations refer to Safety Data Sheets (SDS). Conduct personal sampling as necessary to determine if additional ventilation and/or approved respirators are required. Contact Senior Management or the safety consultant for assistance.

- a. Antimony
- b. Arsenic
- c. Barium
- d. Beryllium
- e. Cadmium
- f. Chromium
- g. Cobalt
- h. Copper
- i. Fluorine
- j. Compounds
- k. Lead
- l. Manganese
- m. Mercury
- n. Nickel
- o. Ozone
- p. Selenium

- q. Silver
- r. Vanadium
- s. Zinc

Welders or helpers when engaged in welding or cutting operations shall not carry matches or butane lighters.

Keep all welding leads and burning hoses up off floors, walkways, and stairways.

### **Welding Operations**

1. Before starting to weld or cut, welders shall inspect the work area to ensure that sparks or molten metal will not fall/fly on combustible materials or other employees.
2. Inspect welding leads before use to ensure that the insulation is not damaged and that the conductor is not exposed.
  - a. Repair or discard damaged cord sets.
  - b. Repairs shall be made by a qualified person, using only correct repair materials.
3. Only cable free from repair or splices for a minimum distance of 10 feet from the cable end to which the electrode holder is connected shall be used. All arc welding cables shall be completely installed, flexible type and capable of handling the maximum current requirements of the work
4. Welding leads shall not be secured to supports with conductive ties (wire, welding rod, etc.)
5. Welding leads shall not be tied in a knot.
6. Welding leads must be removed from vessels and other confined spaces anytime they are not actively used.
7. Welding leads must not be routed across roads or travel ways where they can be driven over by mobile equipment. Welding leads should be elevated above the walking/working area if possible.
8. Ground leads for electric arc welding shall be located as close to the welding area as possible to minimize secondary arcs.
9. Welding machines shall be shut down any time the job is left unattended.
10. Portable welding machines shall be shut down when being refueled.
11. When a portable welding machine includes a receptacle for AC power, the receptacle must be equipped with a ground fault circuit interrupter (GFCI).
12. Welding machines and leads must be inspected before their initial use on-site and at least quarterly after that. This inspection shall be indicated by a color-coded tape system or its equivalent.
13. When arc welding is being done near other workers, they must be protected from the arc rays by noncombustible screens, or they must wear proper eye protection.
14. All welding leads must be adequately insulated from the machine connected to the electrode holder or ground clamp.
15. Do not leave a rod in the holder when it is laid down. Put stub ends in proper containers, not on the ground or floor.

Workers assigned to operate or maintain arc welding equipment shall be acquainted with the following requirements:

1. Before starting operations, all connections to the machine shall be checked to make certain they are properly made. The work lead shall be firmly attached to the work; magnetic work clamps, if used, shall be free from adherent metal particles or spatter on contact surfaces. Coiled welding cable shall be spread out before use to avoid serious overheating and damage to insulation.
2. Equipment shall be inspected before use at the start of each shift. Defective equipment is to be reported to the supervisor and removed from service until repaired.
3. Grounding of the welding machine frame shall be checked. Special attention shall be given to safety ground connections of portable machines.

4. There shall be no leaks of cooling water, shielding gas, or engine fuel. Portable welding machines must be turned off before being refueled.
5. Proper disconnect switches and overcurrent devices must be provided for shutting down the machine.
6. Manufacturers' instructions, printed rules, and requirements covering the operation of equipment supplied by the manufacturers shall be strictly followed.
7. Electrode holders, when not in use, shall be so placed that they cannot make electrical contact with persons, conducting objects, fuel, or compressed gas tanks.
8. Hot electrode holders shall not be dipped in water: to do so may expose the arc welder to electrical shock.
9. Cables with splices within 10 feet (3 m) of the holder shall not be used. The welder should not coil or loop welding electrode cable around parts of his body.
10. When the arc welder or cutter has occasion to leave his/her work for any appreciable length of time, or when the arc welding machine is to be moved, the power supply switch to the equipment shall be opened.
11. Workers should report any equipment defect or safety hazard to their supervisor, and the use of the equipment shall be discontinued until its safety has been assured. Modification and repairs to welding equipment shall only be performed by the equipment manufacturer or a qualified service technician.
12. Machines which have become wet shall be thoroughly dried and tested before being used.
13. Cables with damaged insulation or exposed bare conductors shall be replaced. Joining lengths of work and electrode cables shall be done by the use of connecting means specifically intended for the purpose. The connecting means shall have insulation adequate for the service conditions.
14. Fire protection, personal protection, health protection and ventilation requirements of (CFR1910.252 (a), (b) and (c) as well as AWS A6.1-1966 – Recommended Safe Practices for Gas-Shielded Arc Welding When Performing Any Gas Shielded Arc Welding Process

## **Cutting Operations**

### *Pressure Reducing Regulators*

1. The operator must inspect the equipment before each use. In particular, the operator should look for leaks, burns, worn areas, and other defects.
2. Oxygen cylinders, cylinder valves, couplings, regulators, hose, and apparatus shall be kept free from and away from oil and grease (oil or grease in the presence of oxygen under pressure may ignite violently). Employees shall be prohibited from handling oxygen cylinders or apparatus with oily hands or gloves.
3. Pressure regulators, including the gauges, shall be in proper working order while in use, if not, remove from service.
4. Regulators shall be an approved type of gas to be utilized.
5. Before a regulator is connected to a cylinder valve, the valve shall be cracked (opened slightly and then closed) to clean the valve of any dust or dirt.
6. The working pressure of acetylene shall not be adjusted above 15 PSIG as it becomes unstable to use safely.
7. When the glass becomes cracked or broken on the regulator gauge, it shall be replaced to prevent dirt and moisture from entering and damaging the gauge.
8. When a pressure-reducing regulator is attached to a compressed gas cylinder, the cylinder valve should be opened just slightly at first so that the regulator can take on pressure slowly, after which the valve may be turned open to its normal position. If the regulator takes on pressure too suddenly, it can damage the regulator and pressure gauges. The operator shall stand to the side of the glass-covered gauges and not in front of them.
9. When removing regulators from or attaching regulators to oxygen cylinders, keep all sources of oil and grease (e.g., dirty gloves) away. Regulators shall not be stored in toolboxes/gang boxes where they can become damaged

10. Flash Back Arrestors are required on all cutting rigs.
11. Attach reverse-flow check valves to the torch and flashback arresters to the regulator.
12. At the end of the shift, or when the work is complete, remove the regulator from the cylinders, replace the protective cylinder caps, and cap the regulator threaded compression nipples to prevent dirt and foreign material from entering the system.
13. Store the torch, hoses, and regulators in a clean, dry, oil-free area and a manner to protect them from physical damage.
14. Oxygen and acetylene bottles valves must be closed any time the equipment is not actively used or is left unattended. Bleed off pressure from torch hoses when the torch is not actively used.
15. Acetylene cylinder valves shall be opened slowly not more than one and one-half (1-1/2) turns of the spindle. If the cylinder valve takes a special wrench provided by the supplier, the wrench must be left in position on the stem while the cylinder is in use so that it may be quickly turned off in case of an emergency.

#### *Hose and Torch Connections*

1. Use only hose made especially for welding and cutting to connect an oxyacetylene torch. Metal clad or armored hose is prohibited.
2. Unnecessarily long lengths of hose shall be avoided. When lengths must be used, care shall be taken that the hose does not become kinked or tangled, that it is protected from being run over by trucks or other mobile equipment, stepped on or otherwise damaged.
3. When parallel lengths of oxygen and acetylene hose are taped together for convenience and to prevent tangling, no more than four inches (4") out of twelve inches (12") shall be covered with tape.
4. Gas hoses must be removed from vessels and other confined spaces anytime the equipment is not actively used.
5. Fuel gas hose and oxygen hose shall be easily distinguishable from each other. The two shall not be interchangeable.
6. Unnecessary long lengths of the hose should be avoided. The hose needs to be protected from being run over by equipment or other damage.
7. All hose shall be inspected at the start of the shift for leaks. Hose when worn at connections should be cut off and reinserted. Breaks in the hose should be cut out and a splice inserted. A knowledgeable person using proper/ approved
8. compression fittings shall install new connections. Repairing hose with tape is prohibited.
9. Defective hose or hose in doubtful condition shall not be used. Hose subjected to a flashback shall be taken out of service.
10. Do not use matches or cigarette lighters to light torches. Spark igniters must be used.

#### **Storage and Handling of Compressed Gas Cylinders**

1. Compressed gas cylinders (empty or full) shall be secured in an upright position at all times except, if necessary, for short periods while cylinders are being moved. Empty cylinders shall be marked EMPTY or M.T.
2. A suitable cylinder truck, chain or other secure fastening shall be used to keep cylinders from being knocked over while in use. When cylinders are transported, they shall be secured in a vertical position.
3. Valve protection caps shall be in place at all times, except when cylinders are connected for use.
4. All cylinders shall be checked for leaks or other possible damage upon delivery from the gas supplier. This is done with a mixture of dish soap and water sprayed on valves, connections and pressure relief plugs.
5. While in use, cylinders are to be secured by a chain or bar in a special carrier or cart.
6. Cylinder storage area is to be marked with warning signs: "DANGER NO SMOKING, MATCHES, OPEN LIGHTS OR FLAMES."
7. Cylinders are to be kept far enough away from the actual welding or cutting operation so that

sparks, hot slag, or flame will not come in contact with the cylinders. Fire-resistant shields may be used.

8. When cylinders are hoisted, a rack or other suitable platform shall be used. Cylinders shall not be hoisted or transported by means of magnets or choker slings.
9. Never drop cylinders or permit them to strike one another violently, or use them as rollers or supports, even when empty.
10. Regulators shall be removed, and valve protection caps put back in place before cylinders are moved unless cylinders are firmly secured on a special carrier intended for this purpose.
11. Cylinder valves shall be closed when work is finished when the cylinders will be left unattended, when cylinders are empty and when cylinders are moved at any time.
12. Cylinders of acetylene and other fuel gases shall not be stored with cylinders of oxygen. They shall be separated by a minimum distance of twenty (20) feet or by a noncombustible barrier at least five (5) feet high having a fire-resistance rating of at least one-half hour.
13. Compressed gas cylinders shall not be taken into confined spaces. Cylinders are not to be stored or staged for use inside vessels, tanks or other confined spaces.
14. Fuel gas cylinders shall be placed with valve end up.
15. Cylinders shall be located so as not to be subjected to sparks, hot slag, flame, hot metal, or other sources of heat, artificial or otherwise.
16. Smoking, spark-producing work, and open flame activities are not allowed within 20 feet (6 meters) of any cylinder storage area containing cylinders of flammable gas.
17. No person other than the gas supplier shall attempt to mix gases in a cylinder. No one except the owner or person authorized by the owner of the cylinder shall refill a cylinder. Cylinder contents shall not be used for purposes other than those intended by the supplier.
18. Cylinders shall be placed where they cannot become part of an electrical circuit.
19. No damaged or defective cylinders shall be used.

Fuel gas cylinders in which leaks occur shall immediately be taken out of use and handled in accordance with the following procedure:

1. The valve shall be closed; the cylinder tagged and removed out-of-doors away from sources of flame or sparks and the supplier notified. A regulator attached to the valve may be used temporarily to stop a leak through the valve seat.
2. If the leak occurs at the fuse plug or other safety device, tag the cylinder, remove it out-of-doors away from sources of flame or sparks, and leave the valve slightly open to permit the gas to escape slowly.
3. Warnings against approaching the leaking cylinder with lighted cigarettes or other sources of ignition must be posted. The supplier shall be notified immediately and follow his/her instructions for returning the cylinder and preferably have the supplier pick up the cylinder.

## **Protection of Personnel**

### *General*

All personnel conducting hot work or assisting with hot work on elevated platforms, scaffolds or runways will be protected from falling. The fall protection system will consist of either full railings or a fall arrest system with a full-body harness, lanyard and approved connection point. Hot work personnel will position all cables, hoses and other equipment out of passageways and emergency egress paths whenever possible.

## **Personnel Protective Equipment**

1. To protect eyes, face, and body, employees engaged in electric arc welding shall wear an approved helmet, approved protective gloves and long sleeves or welder sleeves. For eye protection the helmet must be equipped with no less than a #10-filter lens, with a safety lens on both sides of the filter.
2. Adequate ventilation and/or approved respiratory equipment must be used when welding in poorly ventilated areas or when cutting or welding zinc, galvanized, or lead-coated materials.

If adequate ventilation cannot be provided, employees must be provided with and required to use proper respiratory protective equipment.

3. A qualified medical person should promptly remove metal flakes or particles in the eye to prevent rust ring formation.
4. Clothing should be free of oil and grease.
5. Some welding may require the use of flame-resistant gauntlets, gloves, caps, shoulder covers, leggings, high boots, or flame-resistant aprons.

All personnel conducting hot work or assisting with hot work must wear the appropriate personal protective equipment. The appropriate protection is determined by the Personal Protective Equipment Program survey and outlined in the PPE Program document. Do not begin any hot work operations without obtaining and wearing the required protection.

### **Welding, Cutting, Heating, and Brazing**

The following PPE must be worn when completing this type of hot work:

#### *Eye and face protection*

Helmet with filter lens and cover plate that complies with ANSI Z87.1

Safety glasses with side shield under a helmet

#### *Head and Ear Protection*

Fire-resistant welder's cap under the helmet

Approved earplugs or muffs

#### *Foot Protection*

Leather, steel-toed, high-topped boots in good condition and that meet the requirements of ASTM F2412 and ASTM F2413. Do not wear pants with cuffs. The bottoms of pants should be worn over the tops of the boots

#### *Hand Protection*

Dry, hole-free, insulated and flame-resistant welding gloves

#### *Body Protection*

Oil-free protective clothing made of wool or heavy cotton

Clothing should allow for freedom of movement and should prevent skin exposure

Leather aprons, leggings, capes, and sleeves as needed

### **Outside Contractors**

Whenever outside contractors perform any hot work activity, they will be informed of HCS's Hot Work Program and procedures by the Program Administrator or the hot work approver. All outside personnel is required to obtain a permit from the hot work approver. All appropriate safety information will be communicated to the contractor(s) before work begins.

### **References**

OSHA 1926.350

### **Forms**

Welding/Burning – Hot Work Permit

## Welding/Burning - Hot Work Permit

**Location and Description:** \_\_\_\_\_

**Location of Work:** \_\_\_\_\_

**Work Description:** \_\_\_\_\_

**Date:** \_\_\_\_\_

**Time:** \_\_\_\_\_

**Person In Charge Of Work:** \_\_\_\_\_

*No welding, grinding, cutting or other hot work is to be performed on any piping, pipelines, drums, barrels, tanks, vessels or other containers until they have been physically isolated, cleaned and adequate tests have been performed to ensure that no flammable materials, gases or vapors are present.*

### Site Preparation

- |   |                          |                                      |                          |
|---|--------------------------|--------------------------------------|--------------------------|
| System Lockout / De-Energize                                | <input type="checkbox"/> | Source Valves Shut Off Locked/Tagged | <input type="checkbox"/> |
| Lines Broken / Capped/ Blanked                              | <input type="checkbox"/> | Blinds Installed and Marked          | <input type="checkbox"/> |
| Flush / Ventilate Lines and Equip.                          | <input type="checkbox"/> | Additional Ventilation Required      | <input type="checkbox"/> |
| Fire Protection/Firewatch                                   | <input type="checkbox"/> | Area Barricaded                      | <input type="checkbox"/> |
| Combustible Materials Removed or Covered with Fire blankets | <input type="checkbox"/> | Flammable Materials Removed From     | <input type="checkbox"/> |

### Gas Test Performed

Test Performed	Location	Reading	Time

### Additional Safety Equipment Required

- Face Shield        Goggles        Respirator        Gloves        Other

**Special Procedures:** \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

**Authorizations:**

*I certify that I have inspected the work area for safety, and I have reviewed all precautions recorded on this permit and understand all procedures to be taken.*

**Supervisor Authorizing Work:** \_\_\_\_\_

## **Permit System General Requirements**

To ensure adequate controls and safety precautions are being used in non-designated hot work areas, a hot work permit system will be used.

### ***Procedures***

1. Authorized person or supervisor will complete and submit hot work permit request to hot work approver.
2. Hot work approver will review planned safety precautions and inspect the hot work site using the hot work permit checklist within 30 minutes of receiving the request.
3. Hot work approver will inform employees in the immediate area that hot work is going to be conducted and to avoid the area.
4. Hot work approver will communicate any additional special precautions that need to be taken before beginning operations.
5. If all necessary precautions have been taken and work can proceed, the hot work approver will complete the hot work permit and post the warning sign in a highly visible area.
6. Copies of all hot work permit information will be sent to the Program Administrator.
7. Upon completion of the hot work operations and the 30-minute fire watch, the hot work approver will inspect the completed job and ensure the area is clear and ready to return to normal operations.
8. Hot work approver will inform the employees in the immediate area that work is completed to return to normal operations.

### ***Voiding Permits***

Hot work permits will be void and all hot work must not begin or must be immediately stopped if any of the following occur:

1. Fire alarm sounds
2. Work has not begun within 60 minutes of approved time
3. Work has been suspended for more than 60 minutes
4. A work shift ends, or there is a change in authorized or approval personnel
5. At any time, the authorized employee, supervisor or hot work approver detects danger or uncontrolled hazard
6. Whenever a hot work permit is voided, a new permit must be issued to begin or continue hot work operations.

## **Employee Training**

### ***Hot Work Approvers / Authorized Personnel / Supervisors.***

Before any employees designated as hot work approvers, authorized personnel or supervisors are allowed to perform any hot work operations; they must first receive training. Periodic retraining will occur if an employee has a lack of knowledge, uses equipment improperly or if work tasks change. At a minimum, the training will include the following subjects:

1. Fire prevention and protection
2. Basic precautions
3. Special precautions
4. Employee classifications and responsibilities
5. Hot work approver
6. Authorized personnel
7. Supervisors
8. Fire watch personnel
9. Designated hot work areas
10. Non-designated hot work procedures
11. Protection of personnel
12. The hot work permit system
13. Handling and storage of hot work materials
14. PPE selection and use



**Periodic Program Review**

All hot work procedures will be reviewed at least annually by an authorized employee who does not regularly work with the hot work procedure or by the Program Administrator. If any inadequacies are identified, the Program Administrator will update the procedures and program. The annual review will include a discussion between the reviewer and each authorized employee to determine if he/she understands their responsibilities under the program.

**Record Retention**

Written training records, which include trainee names, the type of training provided and the dates when the training occurred, will be kept by the Program Administrator for minimum of 3 years

The Program Administrator will maintain the hot work permits for a minimum of 7 years and the annual program review documents indefinitely.



## Section 33 – Slings and Rigging

### Purpose

To ensure proper use, inspection, care, and storage of slings and rigging for material lifting purposes and to prevent injury to employees and damage to property.

### Rigging Requirements - General

1. Rigging equipment shall be inspected before use on each shift and as necessary during its use to ensure that it is safe. Defective rigging equipment shall be removed from service.
2. Rigging equipment shall not be loaded more than its recommended safe working load.
3. Rigging equipment when not in use should be removed from the immediate work area so as not to present a hazard to employees.
4. Special custom design grabs, hooks, clamps or other lifting accessories for such units as modular panels, prefabricated structures, and similar materials shall be marked to indicate the safe working loads and shall be proof-tested before use for 125 percent of their rated load.

### Working Load Limits

1. The manufacturers recommended safe working loads for chains, shackles, slings, hooks, and all other lifting devices shall not be exceeded. If this information is not available, the device should be tested to at least twice the intended working load before putting into use. Such test must be documented.
2. Job or shop hooks and links or makeshift fasteners, formed from bolts, rebar, rods, etc. should not be used.

### Sling Maintenance

1. Hoisting equipment shall always include slings or other lifting devices and must be kept in good condition.
2. Wire rope slings must be inspected and lubricated frequently and regularly. Slings shall be stored on racks and protected from moisture.
3. Blocks or heavy padding should be used at corners of the load to protect the sling from sharp bending.

### Wire Rope

1. All wire ropes must be inspected before being used. Any rope showing excessive wear, corrosion or rust or when any of the following conditions exist, shall be taken out of service:
  - a. In running ropes, six randomly distributed broken wires in one lay or three broken wires in one strand in one lay.
  - b. Wear of 1/3 the original diameter of individual outside wire: Kinking, crushing, bird caging or any other damage resulting in distortion of the rope structure.
  - c. 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.
  - d. Evidence of any heat damage from any cause.
  - e. In standing ropes, more than two broken wires in one lay in sections beyond end connections or more than one broken wire at an end connection.
2. Kinking and untwisting of the wire rope shall be carefully avoided. At no time shall a load be

- applied to a kinked rope.
3. Wire ropes shall be lubricated with the lubricant recommended by the wire rope manufacturer.
  4. Wherever necessary, wire ropes shall be guarded to prevent persons or materials coming in contact with them.
  5. The friction of wire ropes with other objects causing chafing or breaking of wires shall be prevented.
  6. Protruding ends of strands in splices on slings and bridles should be covered or blunted.
  7. The U-bolt of all wire rope clips must be applied on the dead-end of rope.
  8. The recommended number and spacing of wire clips are illustrated in the following table:

<b>Number and Spacing of U-Bolt Wire Rope Clips</b>			
<b>Number of Clips</b>			
<b>Improved plow steel, rope diameter inches</b>	<b>Drop forged</b>	<b>Other material</b>	<b>Min. Spacing (Inches)</b>
1/2	3	4	3
5/8	3	4	3 1/4
3/4	4	5	4 1/2
7/8	4	5	5 1/4
1	4	6	6
1 1/8	5	6	6 1/4
1 1/4	5	7	7 1/2
1 3/8	6	7	8 1/4
1 1/2	6	8	9

9. Wire rope clips must not be used to fabricate wire rope slings or be used for hoisting purposes.
10. SAF-30.0-3 "Good and Bad Rigging Practices" indicate good and bad rigging practices and the efficiency of various wire rope connections and manila rope knots.

### **Chain Falls and Lever Hoists**

1. Chain falls, and lever hoists shall be marked to show the capacity of the unit and the capacity shall not be exceeded.
2. Chain falls, and lever hoists shall be regularly inspected to ensure that they are safe, particular attention being given to the lift chain, pinion, sheaves, and hooks for distortion and wear. Lever hoists shall be regularly inspected to ensure that they are safe, particular attention being given to the lever, ratchet, pawl, chain, and hooks for distortion and wear.
3. Straps, shackles, and the beam or overhead structure to which a chain fall or lever hoist is secured shall be of adequate strength to support the weight of load plus gear.
4. Chain falls, and lever hoists shall not be used when the hook safety latch is damaged or missing.
5. Chain falls, and come-a-long hoist load chains are not to be wrapped around piping or other loads and hooked back to itself.
6. Do not operate chain falls or lever hoists unless the load slings or other approved attachments are properly sized and seated in the hook saddle.
7. Do not operate a chain fall or lever hoist which has not been securely attached to a suitable

support.

8. Chain falls, and lever hoists must always be used in a straight line pull from hook to hook in the direction of loading.
9. Scaffolding shall not be used as a point of attachment for lifting devices such as tackles, chain falls, and pull-lifts unless the scaffolding is specifically designed for that purpose.

## **Inspections**

### 1. Slings Inspection Frequencies

- a. Initial Inspection - The sling and its hooks, rings, links, and attachments are to be inspected, load tested and certified by the manufacturer or a recognized agency or company.
- b. Frequent Inspection - The rigger is to visually examine each sling and its hooks, rings, links, and attachments before each use for damage, evidence of deficiencies which could lower the load rate of the sling, and presence of the current periodic inspection tag. Deficiencies, or lack of a current periodic inspection tag, shall cause the removal of the sling from service and periodic inspection to be performed.
- c. Periodic Inspection - Each chain and wire rope sling and their hooks, rings, links, and attachments and each fiber rope/synthetic web sling is to be inspected quarterly. The inspection is to be performed by a designated competent person for damage or deficiencies, which would lower the load rating of the sling. This inspection is to be performed on the entire length of the sling and on each of its components.

### 2. Repair or Reconditioning

Qualified personnel using procedures recommended by the manufacturer and / or ANSI / ASME B30.9 will perform repair or reconditioning of the slings. Repaired or reconditioned slings will be proof tested as stated in ANSI / ASME B30.9 before being placed back into service.

### 3. Frequent Inspection of Defect Characteristics

#### a. Alloy Steel Chain Slings

- Wear, nicks, cracks, breaks, gouges, stretch bands, weld splatter, discoloration from excessive temperature and evidence of opening of the hook throat.
- Free movement between chain links and attachments.
- Free movement and proper seating of hook latches.

#### b. Wire Rope Slings

- Distortion of rope such as kinking, crushing, understanding, bird caging, main strand displacement, or core protrusion.
- Loss of rope diameter in short rope lengths or unevenness of outer strands.
- General corrosion
- Broken or cut strands
- Number, distribution, and type of broken wires
- Missing or illegible sling identifications, and
- Other conditions that cause doubt as to continued safe use of the sling. Where any such defect or deterioration is present, remove the sling or attachment from service immediately.

#### c. Natural and Synthetic Fiber Rope Slings

- Cuts, gouges, and abrasions
- Worn fibers or yarns
- Filament or fiber breakage
- Particles of debris or broken fibers between strands.
- Evidence of chemical agents and/or sunlight damage (discoloration, harshness, brittleness, etc.)
- Kinks or knots
- Evidence of heat damage (melting or charring)
- Damaged fittings and/or attachments

- Missing or illegible sling identifications, and
  - Other conditions that cause doubt as to continued safe use of the sling.
- d. Synthetic Webbing Slings
- Acid or caustic burns
  - Evidence of heat damage (melting or charring)
  - Holes, tears, cuts or snags
  - Abrasive wear
  - Knots
  - Damaged fittings and/or attachments
  - Missing or illegible sling identifications, and
  - Other conditions that cause doubt as to continued safe use of the sling.

4. Periodic Inspection Defect Characteristics

a. Alloy Chain Slings

Each link and each attachment will be inspected individually and visually examined for Wear, nicks, cracks, breaks, gouges, stretch bands, weld splatter, discoloration from excessive temperature and evidence of hook deformation, safety latches, connections, and attachments.

Worn links will not exceed the following values as stated below or that are specified by the manufacturer.

Nominal Chain or Coupling Link Size	Maximum Wear (Diameter)
9/32	3/32
3/8	5/64
1/2	7/64
5/8	9/64
3/4	5/32
7/8	11/64
1	3/16
1 1/4	1/4

Sharp transverse nicks and gouges can be rounded out by grinding, and the sling used at its rated capacity, providing the depth of the grind does not exceed the above values.

b. Wire Rope Slings

The entire length of the sling and its splices, end attachments, and fittings are to be visually examined. Evaluation of the sling and determination of its suitability for continued use depends on the judgment of the qualified individual inspecting the sling.

Conditions such as the following should be sufficient to remove the sling from service:

- 1) For strand laid and single part slings, ten (10) randomly distributed broken wires in one (1) rope lay, or five (5) broken wires in one (1) strand in one (1) rope lay.
- 2) Severe localized abrasion or scraping.
- 3) Kinking, crushing, bird caging, or any other damage resulting in distortion of the rope structure.
- 4) Evidence of heat damage.
- 5) Cracked, deformed, or worn end attachments.
- 6) Corrosion of the rope or end attachments.
- 7) Other visible damage that causes doubt as to the strength of the sling.

c. Natural and Synthetic Fiber Rope Slings

The entire length of the sling and its splices, end attachments, and fittings are to be visually examined. Evaluation of the sling and the determination of its suitability for

continued use will depend on the judgment of the qualified individual inspecting the sling.

Conditions such as the following should be sufficient reason to remove the sling from service:

- 1) Cuts, gouges, and badly abraded spots.
- 2) Serious worn surface fibers or yarns.
- 3) Considerable filament or fiber breakage along the line where adjacent strands meet.
- 4) Particles of broken filament or fibers inside the rope between the strands (inspect inside the rope).
- 5) Discoloration or harshness that may mean chemical damage or excessive exposure to sunlight. Inspect filaments or fibers for weakness or brittleness.
- 6) Kinks or brittleness.
- 7) Melting or charring on any part of the sling.
- 8) Excessive pitting or corrosion or cracked, distorted, or broken fittings.
- 9) Other visible damage that causes doubt as to the strength of the sling.

#### d. Synthetic Webbing Slings

The entire length of the sling and its stitching, end attachments, and fittings are to be visually examined. Evaluation of the sling and the determination of its suitability for continued use will depend on the judgment of the qualified individual inspecting the sling.

Conditions such as the following should be sufficient reason to remove the sling from service:

- 1) Acid or caustic burns.
- 2) Melting or charring of any part of the sling.
- 3) Holes, tears, cuts, or snags.
- 4) Broken or worn stitching in load bearing splices.
- 5) Excessive abrasive wear.
- 6) Knots in any part of the sling.
- 7) Excessive pitting or corrosion; or cracked, distorted or broken fittings.
- 8) Other visible damage that causes doubt as to the strength of the sling. For example, colored threads exposed.

#### 5. 5Hook Inspections

Inspection of hooks is to be performed in conjunction with the inspection of slings or the inspection of the hoist or crane. The documentation of this inspection will be, as stated by the referenced procedures.

##### a. Inspection Defect Characteristics

Hooks having any of the following deficiencies are to be removed from service unless a qualified person approves their continued use and initiates corrective action:

- Wear exceeding 10%, or as recommended by the manufacturer of the original sectional dimension.
- A bend or twist exceeding 10 degrees from the plane of the unbent hook.
- An increase in throat opening exceeding 15% or as recommended by the manufacturer.
- If a latch that is provided becomes inoperative because of wear or deformation and is required for the service involved, it will be replaced or repaired before the hook is put back into service
- If the latch fails to fully close the throat opening, the hook will be removed from service or not used until repairs are made.

If hooks are coated, a visual inspection should take this coating into consideration. Surface variations can disclose evidence of heavy or severe service to require more detailed analysis. In such instances, the surface condition may then call for stripping the coating or nondestructive testing.

6. Inspection Documentation

- a. Initial Inspection -This inspection is documented by the manufacturer's identification makings on the sling.
- b. Frequent Inspections- Documentation of frequent inspections is not required. The rigger will identify slings removed from service for suspected deficiencies with a conspicuous tag with wording such as "Warning, Removed From Service" printed on it. He/she will also remove the periodic inspection identification and cause the sling to be inspected. Removal of the warning tag is to be performed only by qualified inspection personnel.
- c. Periodic Inspection
  - Chain and Wire Rope Slings - The periodic inspection will be documented by using colored tape, tag or paint, placed near the hook end, such as the colors stated below:
  - Fiber Rope and Synthetic Slings - The periodic inspection will be documented, and the slings marked by applying colored tags or tape to the inside of the sling's loop eye using a color scheme such as the following:

January through March	White
April through June	Green
July through September	Red
October through December	Orange

**Sling Use**

Whenever any sling is used, the following safe practices shall be observed:

1. Slings that are damaged or defective shall not be used. (See inspection procedures for the type of sling.)
2. Nylon web or round slings must be marked or coded to show the rated capacities for each type of hitch and type of synthetic web material.
3. Nylon web slings shall not be used where fumes, vapors, sprays, mists or liquids of acids are present.
4. Nylon Web or round slings shall not be used at temperatures above 180 deg. F. Polypropylene web slings shall not be used at temperatures above 200 deg. F.
5. Nylon web or round slings which are repaired shall not be used unless repaired by a sling manufacturer or an equivalent entity. Each repaired sling shall be proof tested by the manufacturer or equivalent entity to twice the rated capacity before its return to service. A certificate of the proof test must be available for examination.
6. Never exceed the rated capacity chart for the sling type and the rigging configuration used.
7. Never rig a load angle less than 30°.
8. Never point load a lifting hook. Always make sure the safety latch is working properly
9. Slings shall not be shortened with knots or bolts or other makeshift devices.
10. Sling legs shall not be kinked.
11. Slings shall not be loaded more than their rated capacities.
12. Slings used in a basket hitch shall have the loads balanced to prevent slippage.
13. Slings shall be securely attached to their loads.
14. Slings shall be padded or protected from the sharp edges of their loads.
15. Suspended loads shall be kept clear of all obstructions.
16. Tag lines are to be connected to all hoisted loads unless their use creates an unsafe condition.

17. All employees shall be kept clear of loads about to be lifted and of suspended loads.
18. Hands or fingers shall not be placed between the sling and its load while the sling is being tightened around the load.
19. Shock loading is prohibited.
20. A sling shall not be pulled from under a load when the load is resting on the sling.
21. Rigging for Crane Suspended Personnel Baskets must comply with the following:
  - a. When a wire rope bridle is used to connect the personnel platform to the load line, each bridle leg shall be connected to a master link or shackle to ensure that the load is evenly distributed among the bridle legs.
  - b. Hooks on the overhaul ball, load blocks or other attachment assemblies shall be of a type that can be closed and locked to eliminate the hook throat opening. An alloy anchor type shackles with bolt, nut and retaining pin may be used.
  - c. Wire rope, shackles, rings, master links, and other rigging hardware must be capable of supporting, without failure; at least five (5) times the maximum intended load applied to that component. Where rotation resistant rope is used, the slings shall be capable of supporting, without failure, at least ten (10) times the maximum intended load.
  - d. All eyes in rope slings shall be made to include thimbles.
  - e. Bridles, slings and associated rigging for connecting the personnel platform to the hoist line shall be only used for that purpose and shall not be used to lift materials, equipment, etc. when not hoisting the personnel platform.

## **References**

OSHA 1910.176 and 1910.184  
OSHA 1926.251  
OSHA 1926.1413

## **Forms**

Impact of Angle and Sling Loading Charts  
Proper Use of Cribbing  
Good and Bad Rigging Practices



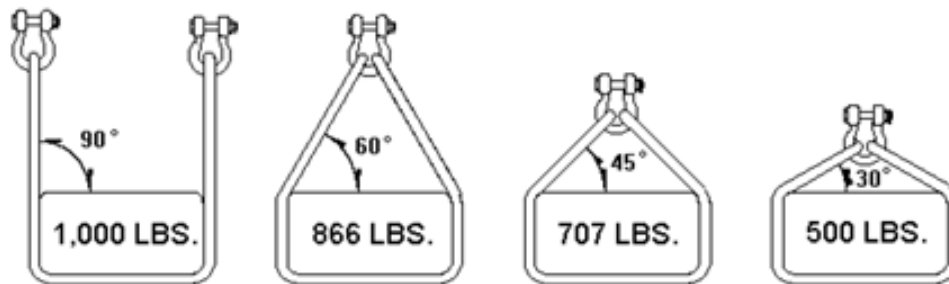
## Impact of Angle and Sling Loading Charts

### Effect of Angle

When slings are used at an angle (i.e., two slings, or one sling in a basket hitch, attached to only one crane hook), sling capacity is reduced. How much it is reduced depends on the degree of the angle. You can determine whether a sling will be rated high enough if you know the angle between the sling leg and the horizontal. Once you know this angle, multiply the sling's rating by the appropriate factor in the table. This will give the sling's reduced rating.

ANGLE DEGREES	FACTOR	ANGLE DEGREES	FACTOR	ANGLE DEGREES	FACTOR
90	1.00	65	.906	40	.643
85	.996	60	.866	35	.574
80	.985	55	.819	30	.500
75	.966	50	.766	25	.423
70	.940	45	.707	20	.342

SLING CAPACITY DECREASES AS THE ANGLE DECREASES

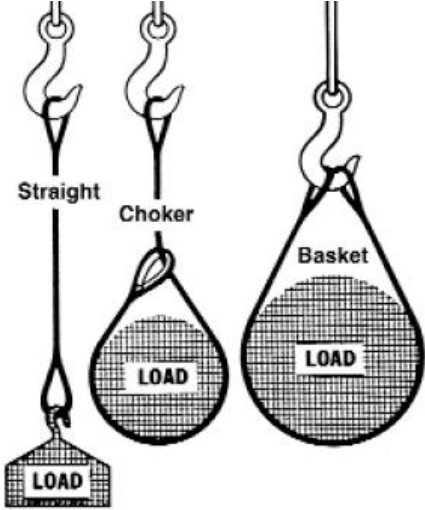


A sling capable of lifting 1,000 lbs. in a 90° vertical basket hitch can only lift 866 lbs. at a 60° angle, 707 lbs. at a 45° angle, and 500 lbs. at a 30° angle.

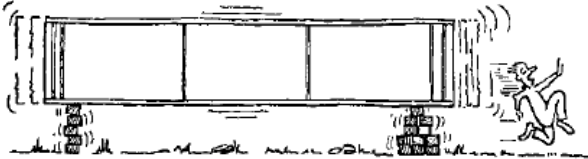
Dia. of Rope (in)	Min. Length (SL) of Sling (ft - in)	Loop Dim.		Rated Capacities (Tons)*									
				IPS Rope - IWRC					EIPS Rope - IWRC				
		W (in)	L (in)	Choker Hitch	Single Leg Vertical	Basket Hitch			Choker Hitch	Single Leg Vertical	Basket Hitch		
						60°	45°	30°			60°	45°	30°
1/4	1 - 6	2	4	.41	.56	.97	.79	.56	.48	.65	1.1	.92	.65
3/8	2	3	6	.93	1.2	2.1	1.7	1.2	1.1	1.4	2.4	2.0	1.4
1/2	2 - 6	4	8	1.6	2.2	3.8	3.1	2.2	1.9	2.5	4.3	3.5	2.5
5/8	3	5	10	2.5	3.4	5.9	4.8	3.4	2.9	3.9	6.8	5.5	3.9
3/4	3 - 6	6	12	3.6	4.9	8.5	6.9	4.9	4.1	5.6	9.7	7.9	5.6
7/8	4	7	14	4.8	6.6	11	9.3	6.6	5.6	7.6	13	11	7.6
1	4 - 6	8	16	6.3	8.5	15	12	8.5	7.2	9.8	17	14	9.8
1-1/8	5	9	18	7.9	10	17	14	10	9.1	12	21	17	12
1-1/4	5 - 6	10	20	9.7	13	23	18	13	11	15	26	21	15
1-3/8	6	11	22	12	15	26	21	15	13	18	31	25	18
1-1/2	7	12	24	14	18	31	25	18	16	21	36	30	21
1-3/4	8	14	28	19	25	43	35	25	21	28	48	40	28
2	9	16	32	24	32	55	45	32	28	37	64	52	37
2-1/4	10	18	36	30	39	68	55	39	35	44	76	62	44
2-1/2	11	20	40	37	47	81	66	47	42	54	94	76	54
2-3/4	12	22	44	44	57	99	81	57	51	65	113	92	65
3	13	24	48	52	67	116	95	67	60	77	133	109	77
3-1/2	16 - 6	32	64	69	88	152	124	88	79	102	177	144	102
3-3/4	18	36	72	78	100	173	141	100	90	115	199	163	115
4	20	40	80	88	113	196	160	113	101	130	225	184	130
4-1/2	24	50	100	108	139	241	197	139	124	160	277	226	160

\* Rated capacities of basket hitches are based on a minimum diameter of curvature at the point of load contact of 40 times the rope diameter for slings 1/4" thru 1" diameter and 25 times the rope diameter for slings 1-1/4" diameter and larger.

# Proper Use Of Cribbing



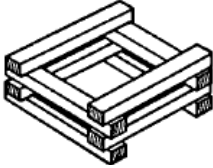
# Proper Use of Cribbing



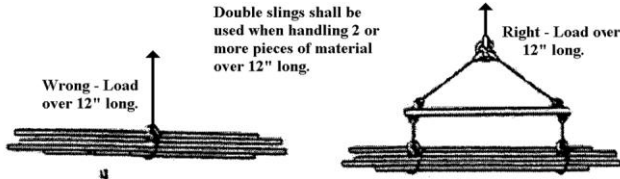
Incorrect



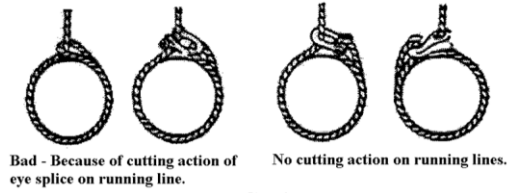
Correct



# Good And Bad Rigging Practices



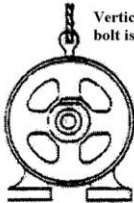
Double slings shall be used when handling 2 or more pieces of material over 12" long.



## Eye Bolts



Bad Practice - Lifting on eye bolts from an angle reduces safe loads as much as 90%.

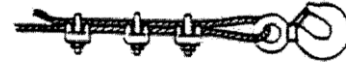


Vertical lift on eye bolt is good practice.

## Eye Splices



Bad Practice - Wire rope knot with clip. Efficiency 60% or less.



Bad Practice - Thimble should be used to increase strength of eye and reduce wear on rope.

## Hoisting Structural Steel



Bad Practice - Can bend flanges and cut rope.



Good Practice - Use space blocks and pad corners.

## Suspending Needle Beams or Scaffolds



Bad Practice - Steel can cut rope.



Good Practice - Sharp corners padded.



Good Practice - Note use of thimble in eye splice.



Good Practice - Use of thimble in eye splice.

## APPLICATION OF WIRE ROPE CLIPS

### CROSBY TYPE



1. CORRECT METHOD - U-Bolts of clips on short end of rope. (No distortion on live end of rope.)



2. WRONG METHOD - U-Bolts on live end of rope. (This will cause mashed spots on live end of rope.)



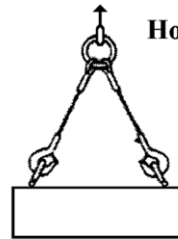
3. WRONG METHOD - Staggered clips: two correct and one wrong. (This will cause a mashed spot on live end of rope due to wrong position of center clip.)

4. After rope is in service, and is under tension, tighten clips to take up on crease in rope diameter.

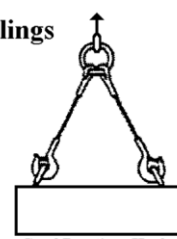
## Number of Clips and Distance Between Clips Needed For Safety

Diameter of Rope (Inches)	Number of Clips	Distance Between Clips
1/4 - 3/8	3	2-1/4"
7/16 - 5/8	4	3-3/4"
3/4 - 1-1/8	5	6-3/4"
1-1/4 - 1-1/2	6	9"
1-5/8 - 1-3/4	7	10-1/2"

## Hook Slings



Bad Practice - Hook openings should be turned out.



Good Practice - Hooks are turned out.

# SAF-30-3 Good And Bad Rigging Practices (cont'd)

## SHACKLE Safe Load In Pounds Drop Forged Steel, Weldless



## STRENGTH OF MANUFACTURED EYE HOOKS Drop Forged Steel, Weldless



Diameter of Pin (Inches)	Max. Width Between Eyes (Inches)	Safe Working Load (Pounds)	Diameter of Pin (Inches)	Max. Width Between Eyes (Inches)	Safe Working Load (Pounds)
1/4	3/8	540	1-1/4	1-7/8	16,000
3/8	9/16	1,400	1-3/8	2	20,000
1/2	11/16	2,700	1-1/2	2-1/8	24,000
5/8	13/16	3,800	1-6/8	2-1/4	28,000
3/4	1-1/16	5,600	1-3/4	2-3/4	32,000
7/8	1-1/4	7,900	2	2-3/4	38,000
1	1-1/2	10,400	2-1/4	3-1/4	46,000
1-1/8	1-5/8	13,200	2-1/2	4	56,000

Inside Diameter Of Eye (Inches)	Throat Opening	Safe Working Load (Pounds)	Inside Diameter Of Eye (Inches)	Throat Opening	Safe Working Load (Pounds)
3/4	1	1,000	1-5/8	2	6,000
7/8	1-1/16	1,200	1-3/4	2-1/16	8,000
1	1-3/16	1,400	2	2-1/4	9,400
1-1/8	1-1/4	2,400	2-3/8	2-1/2	11,000
1-1/4	1-3/8	3,400	2-3/4	3	13,800
1-3/8	1-1/2	4,100	3-1/8	3-3/8	16,000
1-1/2	1-3/4	5,000	3-1/2	4	22,000

All shackle pins must be straight and all pins of screw type must be screwed in all the way. If width between the eyes is greater than listed above, the SHACKLE HAS BEEN OVERSTRAINED AND MUST NOT BE USED.

If the throat opening of any hook exceeds the dimension given above for the corresponding diameter of the eye, the HOOK HAS BEEN OVERSTRAINED AND MUST NOT BE USED.

## EFFICIENCY OF WIRE ROPE CONNECTIONS As Compared to Safe Loads on Wire Rope



Wire Rope Sockets

Spelter Attachment.....100%



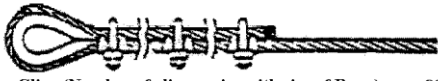
"Swaged-Sleeve" Thimble Attachment.....100%



"Swaged-Sleeve" Loop Attachment.....100%



Wedge Sockets - depending on design.....80-90%

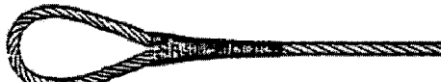


Clips (Number of clips varies with size of Rope) .....80%



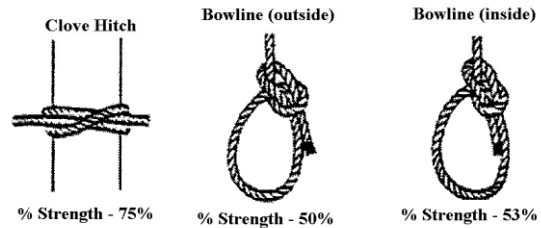
Thimble Splice:

3/8" to 5/8" diam. incl....90-95%    1-1/4 to 1/2" diam. incl....80-85%  
3/4 to 1-1/8" diam. incl....85-90%    1-3/8" to 2" diam. incl....75-80%  
2-1/8" diam. and up .....70-75%



Long Splice: The efficiency of a loop splice without a thimble is somewhat less than given above for a thimble splice.

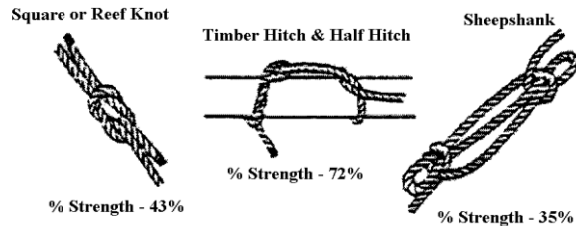
## APPROXIMATE EFFICIENCY OF MANILA ROPE KNOTS AND CONNECTIONS AS COMPARED TO SAFE LOAD ON MANILA ROPE.



% Strength - 75%

% Strength - 50%

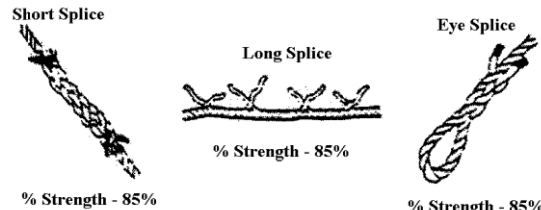
% Strength - 53%



% Strength - 43%

% Strength - 72%

% Strength - 35%



% Strength - 85%

% Strength - 85%

% Strength - 85%



## Section 34 – Steel Erection General Requirements

### Purpose

This procedure provides minimum requirements for steel erection and installation of decking, flooring, and grating. The greatest hazard in steel erection is the possibility of workers falling due to loss of footing, loss of balance, being knocked off a structure by swinging materials, or workers falling through unprotected openings. Even though steelworkers are exposed to a potentially hazardous work environment, falls and other accidents during steel erection can be prevented through the combined efforts of management, supervision, and individual workers. A written steel erection plan that includes construction specifications and safety provisions must be developed before the actual steel erection of the structure may begin.

### Fall Protection Requirements

1. The exemptions outlined in OSHA 29 CFR 1926, Subpart R "Steel Erection" which allows certain workers and work operations not to use fall protection when exposed to falls greater than 6 feet, ARE NOT RECOGNIZED OR ALLOWED BY HCS.
2. All ironworkers, including connectors, bolt up operations, decking operations, roofing operations, etc. shall be provided with positive fall protection 100% of the time.
3. Fall protection/prevention methods such as temporary flooring, scaffolds, boom lifts, scissor lifts, handrails, guard rails, lifelines, safety harnesses, and double lanyards, or safety nets are all forms of fall protection used.

### Definitions

1. **Choker** - A wire rope or synthetic fiber rigging assembly that is used to attach a load to a hoisting device.
2. **Column** - A load-carrying vertical member that is part of the primary skeletal framing system. Columns do not include posts.
3. **Competent Person** - One who is capable of identifying existing and predictable hazards in the surroundings or working conditions which are unsanitary, hazardous, or dangerous to employees, and who has the authorization to take prompt corrective measures to eliminate them.
4. **Connector** - An employee who, working with hoisting equipment, is placing and connecting structural members and/or components.
5. **Controlling Contractor** - Is the prime contractor, general contractor, construction manager, or any other legal entity which has the overall responsibility for the construction of the project -- its planning, quality, and completion.
6. **Critical Lift** - is any lift that (1) exceeds 75 percent of the rated capacity of the crane or derrick, or (2) requires the use of more than one crane or derrick.
7. **Leading Edge** - Is the unprotected side and edge of a floor, roof, or formwork for a floor or other walking/working surface (such as a deck) which changes location as additional floor, roof, decking or formwork sections are placed, formed or constructed.
8. **Multiple Lift Rigging** - Is a rigging assembly manufactured by wire rope rigging suppliers that facilitates the attachment of up to five independent loads to the hoist rigging of a crane.
9. **Opening** - Is any gap or void 12 inches (30.5 cm) or more in its least dimension in a floor, roof, or other walking/working surface. Skylights and smoke domes that do not meet the strength requirements of twice the anticipated load imposed by workers, equipment, and materials at any one time shall be treated as openings.
10. **Personal Fall Arrest System** - Is the system used to arrest an employee in a fall from a

working level. A personal fall arrest system consists of an anchorage, connectors, a body harness and may include a lanyard, deceleration device, lifeline, or suitable combination of these. (See Section 29 Fall Protection).

11. **Qualified Person** - One who, by the possession of a recognized degree, certificate, or professional standing, or who by extensive knowledge, training, and experience, has successfully demonstrated the ability to solve or resolve problems relating to the subject matter, the work, or the project.
12. **Steel Erection** - Is the construction, alteration or repair of steel buildings, bridges, and other structures, including the installation of metal decking and all planking used during the process of erection?
13. **Unprotected Sides and Edges** - Is any side or edge (except at entrances to points of access) of a walking/working surface, for example, a floor, roof, ramp or runway, where there are no wall or guardrail system at least 39 inches (1.0 m) high.

### **Planning**

1. The commencement of steel erection activities cannot begin until written verification has been received stating that anchor bolt repairs and concrete curing requirements have been met.
2. No repairs, replacement or field modifications shall be performed to anchor bolts without the approval of the project structural engineer of record.
3. Adequate access roads into and through the site must be provided for the safe delivery and movement of derricks, cranes, trucks, other necessary equipment, for the staging and erection of the material as well as allowing for pedestrian and vehicular control.
4. All hoisting operations in steel erection shall be pre-planned to ensure that no employee is required to work directly below a suspended load.
5. Development of a Site-Specific Erection Plan.
6. Thorough planning is essential and is required for all steel erection, and all installation and removal of decking, flooring, and grating. A site-specific erection plan must be prepared to define the erection sequence and procedures to be followed.

### **The following factors must be considered when planning the work:**

1. Site preparation, identifying material staging area, storage, and delivery locations and how erection activities will be coordinated with other trades and contractors.
2. Describe the crane selection and placement procedures, including identifying the path for overhead loads, rigging hardware, i.e. slings and shackles and any critical lifts.
3. The qualifications and training of personnel.
4. Detailed, specific job and safety instructions for each worker.
5. Scheduling (identify who, what and when for each task).
6. Means of access, such as ladders and scaffolding or other equipment such as boom lifts, etc.
7. A description of steel erection activities and procedures, including any temporary bracing and guying of the structure. The plan should identify the erection sequence for columns, beams, bracing, flooring, piping, vessels, and mechanical equipment as well as the steps to be taken to decrease the hazard exposure, i.e., early
8. erection of stairs and railing to provide access and egress as the steel is erected.
9. Tools appropriate to the task - Field-modified tools are not allowed.
10. Barricades, warning signs, and other protection for personnel and equipment.
11. Proper PPE, including Fall Protection systems, lifeline systems, and temporary platforms to maintain 100% fall protection.
12. Overhead obstructions.
13. Availability and location of emergency equipment and procedures.

### **Unloading, Storing, And Handling Steel**

1. When steel and grating are delivered by truck, the driver must be out of the truck when

- unloading. Before the load is lifted, personnel unloading steel must stand clear of the truck.
2. Arrange and sequence materials to minimize excessive handling
  3. Store steel members on wood or other appropriate tonnage and place material in a stable position. Block or crib materials as necessary to prevent movement.
  4. When unloading trucks, materials must be unloaded in a manner to prevent the load from shifting or being knocked off.
  5. When unloading materials, a minimum 6' tagline is required on all suspended loads.
  6. When lifting a load of steel, keep hands away from the load, make sure that the remaining steel does not obstruct, or get entangled with the load.
  7. The use of "shake out" hooks shall not be used for lifting or placing loads.

### **Connecting, Bolting, And Guying Steel**

1. Always use either decking, safety nets, or a tied-off harness system to protect employees from falls. Harness systems equipped with two lanyards, when properly used, allow steelworkers to tie-off 100% of the time. (Refer to Section 29 Fall Protection).
2. Climbing up or sliding down columns is prohibited. Use ladders scaffolding or Boom lifts to make connection points.
3. To provide access to each level, install stairs equipped with guardrails as each elevation of steel is erected.
4. Straddle (coon) beams when moving laterally. Walk on the top of a beam only if it is too large or too small to straddle.
5. Do not work directly over other workers. This restriction protects employees at lower levels from being struck by falling tools, bolts, nuts, or other debris. Tools and materials used at elevated heights should be secured using tools lanyards, bolt bags, buckets, etc.
6. Do not throw tools, bolts, washers or drift pins, place them in bolt baskets or other approved containers and raise or lower them with a hand line. Bolt baskets, water kegs, and other supplies must be secured against accidental displacement when aloft.
7. When bolts or drift pins are knocked out, they shall not be allowed to fall to a lower level.
8. Do not use a wrench in a bolt hole as a step.
9. Erect, tag, and maintain barricades on all elevations where employees are exposed to overhead work. Use "Danger - Overhead Work" signs in these areas.
10. Always keep clear of moving loads. When erecting steel, keep hands clear. Leave drift pins or temporary bolts in place until it is certain no one is below.
11. When connectors are working together, designate only one person to give signals. That person makes sure that his or her partner, or others working on the job, are in the clear.
12. Each person must select a position where he or she cannot be struck by a swinging load.
13. A wrench or drift pin placed in a hole is not a reliable connecting device and should be used only for alignment purposes.
14. When connectors are working at the same connecting point, one end of the structural member must be connected and snug with a spud wrench before going out to connect the other end. Only one connector should go out to connect to the other end.
15. During the final placing of solid web structural members, the load shall not be released from the hoisting line until the members are secured with not less than two bolts, or the equivalent at each connection and drawn up wrench tight. All structural members are to be securely bolted before removing the hoisting line
16. Connectors, like all other personnel, must practice Continuous Fall Protection at all times.
17. Permanent floors must be installed as the erection of structural members progresses. To meet this requirement, structures must be plumbed and permanently bolted as the steel is erected.
18. At no time should there be more than four floors or 48 feet (14.6 meters) of unfinished, temporarily bolted or welded structure above the foundation or uppermost permanently secured floor.
19. Where permanent floors cannot be installed, install temporary floor decking as soon as

possible. Temporary flooring shall be solidly planked or decked over the entire surface except for access openings. All planking or decking shall be of sufficient thickness to carry the working load. All-access openings shall be guarded. (Refer to Section 27)

20. Temporary flooring shall be secured against displacement.
21. On buildings or structures not adaptable to temporary floors and where scaffolds are not used, safety nets are to be installed and maintained whenever the potential fall distance exceeds two stories or 25 feet. The nets shall be placed with sufficient clearance to prevent contact with the surface of structures below.
22. On multiple level steel constructions, provide ladders, scaffolds, stair towers, or other safe means to the protected floor level immediately below the area of connection. All personnel must use this means for safe access and egress to the protected floor or level.
23. When climbing ladders, do not hand-carry any tools or materials, use three-point contact rule.
24. A periphery safety railing of ½ inch wire rope or equivalent shall be installed, approximately 42 inches high around the perimeter of the temporary floors. Mid-rails and toe boards shall be installed when needed to prevent tools and materials from falling to lower levels.
25. Properly install and use the correct size and number of clips for the cable size. A minimum of three (3) clips are required for wire rope handrails.
26. Inspect and re-tighten all wire rope clips weekly.

### **Hoisting And Rigging**

1. Cranes being used in steel erection activities shall be visually inspected before each shift by a competent person; the inspection shall include observation for deficiencies during operation.
2. Inspect ground conditions around the hoisting equipment for proper support, including ground settling under and around outriggers, groundwater accumulation, or similar conditions;
3. If any deficiency is identified, an immediate determination shall be made by the competent person as to whether the deficiency constitutes a hazard. If the deficiency is determined to constitute a hazard, the hoisting equipment shall be removed from service until the deficiency has been corrected.
4. The operator shall be responsible for those operations under the operator's direct control. Whenever there is any doubt as to safety, the operator shall have the authority to stop and refuse to handle loads until safety has been assured.
5. A qualified rigger shall inspect the rigging before use and as necessary during its use to ensure that it is safe. Defective rigging equipment shall be removed from service.
6. Carefully observe the entire load during the lift to see that nothing gets in the way or fouls the line.
7. Stand in the clear when slings are loosened on a load of steel.
8. Do not take hold of the hoist rope near the sheave block.
9. Safety latches on hooks shall not be deactivated or made inoperable.
10. Employees are not permitted to ride loads or crane headache ball.
11. Tag lines are to be used to control loads.
12. Crane operators shall sound their horns before swinging of the crane boom.
13. Materials shall not be swung over employees nor shall employees be allowed to walk, stand, or work under suspended loads.
14. Where possible, use two-wire rope slings on structural members over 15 feet (4.6 meters) in length.
15. When steel must be tilted to drift it into position, it may be preferable to rig with one sling using a double wrap.

### **Working Under Loads**

1. Routes for suspended loads shall be pre-planned to ensure that no employee is required to work directly below a suspended load except for:



- a. Employees engaged in the initial connection of the steel, or
  - b. Employees necessary for the hooking or unhooking of the load
2. When working under suspended loads, the following criteria shall be followed;
    - a. Materials being hoisted shall be rigged to prevent unintentional displacement.
    - b. Hooks with self-closing safety latches or their equivalent shall be used to prevent components from slipping out of the hook; and
    - c. All loads shall be rigged by a qualified rigger

### **Multiple Lift Rigging Procedure**

1. A multiple lifts shall only be performed if the following criteria are met:
  - a. A multiple lift rigging assembly is used;
  - b. A maximum of five members are hoisted per lift;
  - c. Only beams and similar structural members are lifted; and
  - d. All employees engaged in the multiple lifts have been trained in these procedures including the nature of the hazards associated with multiple lifts, the proper procedures, and equipment to perform multiple lifts and the pre-task JSA / TSA has been completed and reviewed with the steel erection crews.
  - e. No crane is permitted to be used for multiple lifts where such use is contrary to the manufacturer's specifications and limitations.
  - f. Components of the multiple lift rigging assembly shall be specifically designed and assembled with a maximum capacity for total assembly and for each attachment point. This capacity, certified by the manufacturer or a qualified rigger, shall be based on the manufacturer's specifications with a 5 to 1 safety factor for all components.
2. The total load shall not exceed:
  - a. The rated capacity of the hoisting equipment specified in the hoisting equipment load charts
  - b. The rigging capacity specified in the rigging rating chart.
  - c. The multiple lift rigging assembly shall be rigged with members:
    - Attached at their center of gravity and maintained reasonably level;
    - Rigged from the top down; and
    - Rigged at least 7 feet (2.1 m) apart.
  - d. The members on the multiple lift rigging assembly shall be set from the bottom up. Controlled load lowering shall be used whenever the load is over the connectors.

### **Safe Practices**

1. Protection of others, whether public or other workers, shall be safeguarded at all times. See that "Men Working Overhead" or other safety signs are posted where necessary to keep people out of the danger areas. Establish barricades where indicated. A woven plastic barricade fence provides good protection.
2. Employees who may indicate a fear of heights or are subject to dizziness shall be kept on groundwork.
3. Pneumatic hand tools shall be used with extreme caution with special attention to the following:
  - a. Power sources shall be secured, and hose lines shall be bled off before disconnecting tools or hose sections.
  - b. Airlines hose connections shall be wired or tied together to prevent accidental separation.
  - c. Impact wrenches shall be provided with a locking device for retaining the socket. Make sure that the socket is properly attached to the impact wrench and that the locking device is secured. Use only flush-fitting pins to secure the socket of an impact wrench. Nails or protruding wires may injure your hands or body.
  - d. Appropriate eye and hearing protection shall be provided and used by workers using

pneumatic hand tools.

- e. Have a firm footing when bolting with hand or pneumatic power tools.
4. Connections of the equipment used in plumbing-up shall be properly secured.
5. Turnbuckles shall be secured to prevent unwinding under stress.
6. Plumbing-up guys and related equipment shall be placed so that employees can get at connection points.
7. Limit access to the area until decking, grating or roofing is in place and secured. Provide fall protection for employees installing decking, grating, or roofing and for any other employees authorized to be on the incomplete levels.
8. Workers exposed to "leading edges" must be protected by guardrail systems, body harness systems or a safety net.
9. Install permanent handrails and mid-rails when the decking or grating work has progressed far enough to allow installation to begin. If permanent guardrail material is not on-site, use cable or equivalent material.
10. If holes for equipment, vessels, piping or other openings are in the decking, grating or roofing, promptly cover them with identified hole covers or surround them with temporary railing. Do not leave holes uncovered or leave out pieces of grating, decking or roofing. Do not use barricade tape at the edge of any opening instead of a substantial railing.
11. Use appropriate PPE. Always wear gloves.
12. Do not leave tools, bolts, washers, and drift pins lying on beams and scaffold platforms or other areas where they could be kicked off or fall to lower levels.
13. Roof sheets or other materials remaining on the roof overnight must be secured or lowered to the ground and secured in a safe area.



## Section 35 – OSHA Inspections

### Procedure

OSHA inspections are normally done without giving advance notice. However, certain situations such as imminent danger and when special preparations or personnel are necessary notice will be given.

Make sure HCS is prepared on certain aspects before an OSHA inspection occurs. The following should be done before an OSHA inspection:

1. Choose an HCS primary and secondary person who will represent HCS during the inspection
2. Educate all of your employees of their rights during an OSHA inspection
3. Make sure all of your OSHA records, such as OSHA 300 forms, safety manual, safety meeting minutes are updated and accessible
4. Make sure your Safety Data Sheets are current and openly displayed

### Inspector Arrival

The inspector should arrive during normal business hours. Upon his arrival, his/her credentials should show their credentials. If not, then they should be asked to present the credentials before allowing entry into your facility or onto your job site.

**Note:** Only employees of OSHA should be permitted to complete the inspection.

### Opening Conference

The Inspector should conduct an opening conference, although the failure to do so has been held not to invalidate the inspection or subsequent citations. A management representative should request, and be present at, an opening conference before permitting the inspector to begin his inspection.

Purpose of an opening conference is to state why the inspection is being done. Reasons an inspection is being performed could result from observed violation, employee complaint, targeted operation, etc. At no time should an HCS representative volunteer information to the inspector.

During the open conference, the inspector should identify where he/she intends to go, how long he/she anticipates to being on-premise, etc. An HCS representative should hold the inspector to a schedule.

An HCS representative should ask if the inspection is based in whole or part of any employee complaint. If so, then request to see a copy of the complaint.

During the open conference, the inspector will request certain HCS records. Those records could include the following:

- Copies of Policies and Procedures (i.e., safety manual)
- Access to Employee Exposure and Medical Records
- Illness and Injury Records - OSHA 300/300A forms and Workers Compensation First Report Injury Form

**Note:** Allow the inspector to review the above documents but do NOT allow him to make copies and take with him/her.

### **Refusing Entry**

HCS may refuse the inspector entry into the facility or job site to conduct the inspection. However, this will force OSHA to obtain a search warrant. Before HCS decides to refuse entry consulting with an attorney who is experienced with regulatory matters should be done. Keep in mind, refusing entry may turn an ordinary inspection into a meticulously, thorough search for violations.

For OSHA to obtain a search warrant, they must demonstrate before the U.S. magistrate there is probable cause to inspect a facility and/or job site. Probable cause can be based on the following:

1. An employee complaint
2. Evidence of an existing violation
3. Evidence the inspection has been made pursuant to a reasonable legislative or administrative program that has been neutrally administered.

If an inspector arrives with a warrant, an HCS representative should ask for the warrant to be presented along with the legal documents, which are the bases for the inspection. The warrant should be carefully scrutinized as to its scope and duration. (i.e. a warrant pertaining to a paint booth area does not necessarily give the inspector authority to inspect the welding area). If the scope of the warrant exceeds that of the actual complaint, HCS will need to take necessary legal action to restrict the inspector inspection, and entry should be denied.

### **Photographs**

During the inspection, photographs and/or video will be taken to document the inspection areas. If permission is refused OSHA will seek a court order which would permit photographs and/or videos.

An HCS representative should take the same photographs and/or video at the same angles as the inspector. In some cases, especially on construction job sites, photographs and/or videos have already been taken. This is a common practice and is legal if photographs are taken from public property.

### **Work Area/Jobsite Inspection**

During the inspection, if asked to use tape recorder do NOT allow. The inspector may ask to conduct employee interviews. If so, these interviewed must be allowed however they must be conducted with minimum of interference to HCS operations. If inspector is disrupting operation demand, the interview of the employee(s) is completed after hours or off the worksite. The interview may be done with employees without the presence of an HCS representative. However, HCS should consider taking a statement from the employee after the inspector has completed the private interview. Section II(c) of OSHA prohibits discrimination against employees who participate in the enforcement of the act. Therefore, post-inspection employee interviews should be conducted very carefully and possible in the presence of an attorney.

As part of the workplace inspection employee sampling may be necessary. As this aspect of an OSHA inspection may apply to the scope of operation performed by an HCS. Inspectors may be permitted to sample contaminants and other toxic substances by taking area samples and employee breathing zone samples. However, the sampling may not be conducted to interfere with normal operations. The sampling procedures should be constantly monitored by an HCS representative. In particular, employees should not and must not be allowed to tamper with the

sampling device itself or operate processes or machinery in such a manner as to produce abnormally high levels of contaminants.

**Closing Conference**

Upon completion of the inspection, a closing conference should be conducted by the inspector. During this process the inspector should advise HCS of any apparent violations discovered during the inspection. However, this may not include any health violations subject to the samplings.

An HCS representative should inform the inspector of all changes that were made to violations during the time of the inspection. The inspector should be provided proof or evidence if at all possible before his/her departure.



## **Section 36 – Safety Program Evaluation and Recordkeeping**

The Program Administrator will be responsible for ensuring the safety program is reviewed at least once during the first year after implementation and then at least annually after that.

The review will be to ensure that the written plan is appropriate for Hill Country Steel, LP, at the time of the review and any anticipated future changes. The Program Administrator or designee will be required to provide written notice that the review was conducted and communicate changes, suggested modifications, and improvements.

### **Recordkeeping**

The program administrator will ensure the maintenance of all Safety Program records, for the listed periods, including:

- |     |   |                      |
|-----|---|----------------------|
| 1.  | New Employee Safety Orientation Forms     | Length of Employment |
| 2.  | Code of Safe Practices Receipt            | Length of Employment |
| 3.  | Disciplinary Actions For Safety           | 1 Year               |
| 4.  | Safety Inspections                        | 2 Years              |
| 5.  | Safety Meeting Reports                    | 2 Years              |
| 6.  | Safety Contact Reports                    | 2 Years              |
| 7.  | Accident Investigations                   | 5 Years              |
| 8.  | Federal OSHA Log of Injuries              | 5 Years              |
| 9.  | Inventory of Hazardous Materials (If Any) | Forever              |
| 10. | Employee Exposure or Medical Records      | Forever              |

Records are available for review by employees anytime during business hours at the main office.



## **Section 37 – Appendixes/Forms**



## **Disciplinary Procedures**

Employee accountability for following established safety regulations, procedures, and safe work practices is an integral and essential part of a functional accident prevention program. OSHA Standards require HCS to have a formal accident prevention program and to have a positive means to enforce the requirements of the program.

Safety warning notices will be used by the project to inform employees of violations of safety regulations, procedures, and work practices and to remind these employees that said regulations, procedures, and work practices are designed for their own protection.

### **Responsibility**

Project management/supervision shall take whatever disciplinary steps are necessary up to and including termination of employees who violate safety regulation procedures and safe work practices in order to ensure compliance with same.

### **Scope**

When an employee is observed violating, disregarding or disobeying established safety regulations, procedures and/or safe work practices, the craft foreman, superintendent or safety supervisor/ inspector shall be responsible for issuance of a "Safety Warning Notice".

NOTE: Employees who are injured or involved in an injury accident or near miss and who through accident investigation are found to be negligent in obeying project safety procedures shall be issued a Safety Violation Notice. This Violation Notice shall be issued by the craft superintendent and co-signed by the Project Safety Supervisor.

Upon receipt of the first written notice the offending employee shall receive a Safety Department verbal reprimand with notification of the employee's department superintendent/manager and a copy of the violation notice sent to the Project Manager.

Upon receipt of the second written notice the offending employee shall receive a formal reprimand from the Safety Department and craft/department superintendent, or manager copy of the violation notice sent to the Project Manager.

Upon receipt of the third written notice the offending employee's supervisor or manager shall take disciplinary action up to and including, if necessary, termination and a copy of the violation sent to the Project Manager.

Disciplinary action which can be taken for safety violation of safety rules, procedures, or practice include:

- Counseling of employee
- Suspension from work without pay



- Demotions in classification
- Termination of employment

**NOTE:** EMPLOYEES WHO VIOLATE SAFETY RULES, REGULATIONS, OR WORK PRACTICES WHICH ARE CONSIDERED OF A LIFE-THREATENING NATURE TO THEMSELVES OR OTHERS ARE SUBJECT TO IMMEDIATE TERMINATION ON THE FIRST VIOLATION.

In some cases, disciplinary action may also be directed beyond employees observed in the actual violation (e.g., failure to report unsafe acts and those cases where it is determined that supervisors or foremen had knowledge that employees were consistently violating safety work practices and the supervisor failed to initiate any action to correct the situation).

### **Distribution**

All authorized personnel shall use the "Violation of Safe Practice" form or a "Safety Warning Notice" booklet.

Upon issuance of notice, copies will be distributed as follows:

- One (1) copy to the offending employee
- One (1) copy to the employee's supervisor
- One (1) copy to the employee's personnel folder in HR

Each supervisor shall track safety violations issued in their department.



## Violation of Safe Work Practices

Shop/Project/Site Name: \_\_\_\_\_

Employee Name: \_\_\_\_\_

Job Assignment: \_\_\_\_\_

Date & Time: \_\_\_\_\_

Immediate Supervisor: \_\_\_\_\_

Nature of Violation: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Action Taken to Prevent Reoccurrence: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Issued By Name: \_\_\_\_\_

Title: \_\_\_\_\_

\_\_\_\_\_

Signature



## Incident/Accident Investigation Form

1. Shop or Project Name:	2. Date:
3. Exact Location of Incident/Accident:	4. Date of Incident/Accident:
5. City/State/Zip:	6. Time of Incident/Accident:
7. Supervisors Name:	8. Job Number:
9. Report Prepared by:	10. Case Number:

### Employee Information

11. Injured Person:	12. Employee ID No.:	
13. Job Title:	14. Length of Employment:	15. Sex: M <input type="checkbox"/> F <input type="checkbox"/>
16. Nature of Injury:	17. Injured body part:	18. Body side Indicator: <input type="checkbox"/> L <input type="checkbox"/> R <input type="checkbox"/> Both
19. Type of treatment: <input type="checkbox"/> Injury free event <input type="checkbox"/> First Aid <input type="checkbox"/> Medical Treatment <input type="checkbox"/> Illness <input type="checkbox"/> Transported to Emergency/Hospital	20. Potential for fatality: <input type="checkbox"/> High <input type="checkbox"/> Medium <input type="checkbox"/> Low	
21. Activity at the time of Incident/Accident:	22. Job being performed:	
23. Unsafe Act: <input type="checkbox"/> Yes <input type="checkbox"/> No	24. Unsafe Condition: <input type="checkbox"/> Yes <input type="checkbox"/> No	
25. Source of Injury:	26. Was employee experienced? <input type="checkbox"/> Yes <input type="checkbox"/> No Was employee trained? <input type="checkbox"/> Yes <input type="checkbox"/> No	
27. Type of Incident/Accident: <input type="checkbox"/> Caught in <input type="checkbox"/> Caught between <input type="checkbox"/> Struck by <input type="checkbox"/> Contact with <input type="checkbox"/> Exposure to <input type="checkbox"/> Caught on <input type="checkbox"/> Struck against <input type="checkbox"/> Stain/Stress <input type="checkbox"/> Fall to lower level <input type="checkbox"/> Fall same level <input type="checkbox"/> Other:		

28. Witnesses:

### Equipment Information

29. Equipment /Property damage:	30. Model/Serial Number:
31. Nature of Damage:	
32. Source of Damage:	



## Description of Incident

What occurred? Describe the incident, provide any relevant information, such as employee's location and position relative to immediate surroundings, how employee was doing what job he/she was doing, what occurred that precipitated the incident, the type of incident and contact agent. Attach diagrams or sketches to clarify as needed.

What actions caused or contributed to the incident? – Check item(s) below which best indicate reasons why act identified in above was committed. Write in information for indirect causes not listed.

1.  Operating or using equipment without authority
2.  Failure to secure against unexpected movement
3.  Operating or working at an unsafe speed
4.  Failure to warn or signal as required
5.  Removing or making safety devices inoperative
6.  Using defective tools or equipment unsafely
7.  Using tools or equipment unsafely
8.  Taking an unsafe position or posture
9.  Servicing moving, energized or otherwise hazardous equipment
10.  Riding hazardous moving equipment
11.  Horseplay, distracting, startling, teasing, etc.
12.  Failure to wear personal protective equipment
13.  Other than above
14.  None \_\_\_\_\_

What condition of tools, equipment, or job site caused or contributed to the incident? - Check item(s) below which best indicate reasons why conditions identified in above existed. Write in information for indirect causes not listed.

1.  Lack of or inadequate guards and safety devices
2.  Lack of or inadequate warning systems
3.  Fire and explosion hazards
4.  Unexpected movement hazards
5.  Poor housekeeping hazards
6.  Protruding object hazards
7.  Close clearance and congestion hazards
8.  Hazardous atmospheric conditions
9.  Hazardous arrangement, placement or storage
10.  Hazardous defects of tools, equipment, etc.
11.  Inadequate illumination, intense noise
12.  Hazardous personal attire
13.  Other than above
14.  None \_\_\_\_\_

**Direct Personnel Causes** - What did the employee or someone else do, or fail to do, that contributed directly to this incident. Be specific, for example: "Operated equipment without authority"; "Used too short of a ladder"; or "Standing on top step of step ladder "

**Direct Environmental Causes** - What defective or otherwise unsafe condition(s) of machinery equipment, product, working surface, and structure or work area contributed directly to this Incident? Be specific, for example: "Handrail missing"; "Oil on floor"; "Damaged hammer handle."

What caused or influenced above contributing actions?

- |  |  |
|--|--|
| <ol style="list-style-type: none"> <li>1. <input type="checkbox"/> Unaware of job hazards</li> <li>2. <input type="checkbox"/> Inattentive to hazards</li> <li>3. <input type="checkbox"/> Unaware of safe method</li> <li>4. <input type="checkbox"/> Low level of job skill</li> <li>5. <input type="checkbox"/> Tried to gain or save time</li> <li>6. <input type="checkbox"/> Tried to avoid extra effort</li> <li>7. <input type="checkbox"/> Acted to avoid discomfort</li> </ol> | <ol style="list-style-type: none"> <li>8. <input type="checkbox"/> Influence of fatigue</li> <li>9. <input type="checkbox"/> Influence of illness</li> <li>10. <input type="checkbox"/> Influence of intoxicants</li> <li>11. <input type="checkbox"/> Defective vision/hearing</li> <li>12. <input type="checkbox"/> Unable to determine</li> <li>13. <input type="checkbox"/> Other (Explain)</li> </ol> |
|--|--|

What caused or influenced above contributing conditions?

- |   |   |
|---|---|
| <ol style="list-style-type: none"> <li>1. <input type="checkbox"/> Worn out from normal use</li> <li>2. <input type="checkbox"/> Abuse or misuse by users</li> <li>3. <input type="checkbox"/> Required insp. not done</li> <li>4. <input type="checkbox"/> Inspection not required</li> <li>5. <input type="checkbox"/> Clean-up failure</li> <li>6. <input type="checkbox"/> Clean-up not required</li> <li>7. <input type="checkbox"/> Clean-up not done</li> <li>8. <input type="checkbox"/> Inadequate ventilation</li> <li>9. <input type="checkbox"/> Congestion - lack of space.</li> <li>10. <input type="checkbox"/> Unsafe design</li> </ol> | <ol style="list-style-type: none"> <li>11. <input type="checkbox"/> Faulty construction</li> <li>12. <input type="checkbox"/> Inadequate illumination</li> <li>13. <input type="checkbox"/> Lubrication failure</li> <li>14. <input type="checkbox"/> Exposure to corrosion</li> <li>15. <input type="checkbox"/> Exposure to vibration</li> <li>16. <input type="checkbox"/> Exposure to extreme temp</li> <li>17. <input type="checkbox"/> Tampering</li> <li>18. <input type="checkbox"/> Supervisor failed to correct</li> <li>19. <input type="checkbox"/> Unable to determine</li> <li>20. <input type="checkbox"/> (Other (Explain)</li> </ol> |
|---|---|



## Corrective Actions Required to Prevent Recurrence

Check those actions taken to prevent a recurrence. Fill in (shade) the appropriate box for corrective actions decided upon or planned but not yet initiated or completed

- |   |   |  |
|---|---|--|
| 1. <input type="checkbox"/> Use safer materials/supplies                      | 8. <input type="checkbox"/> Improved enforcement                  | 16. <input type="checkbox"/> Improve design/construction         |
| 2. <input type="checkbox"/> Improve illumination                              | 9. <input type="checkbox"/> Order JSA done on job                 | 17. <input type="checkbox"/> Eliminate congestion                |
| 3. <input type="checkbox"/> Improve ventilation                               | 10. <input type="checkbox"/> Order Safe Work Instruction revision | 18. <input type="checkbox"/> Reinstruction of employees involved |
| 4. <input type="checkbox"/> Mandatory pre-job instructions employees involved |   | 11. <input type="checkbox"/> Install/revise safety guard/device  |
| 5. <input type="checkbox"/> Job reassignment of employee employees involved   |   | 12. <input type="checkbox"/> Require protective equipment        |
| 6. <input type="checkbox"/> Improved inspection procedure of others doing     |   | 13. <input type="checkbox"/> Repair/replace equipment            |
| 7. <input type="checkbox"/> Improved clean-up procedure                       |   | 14. <input type="checkbox"/> Improved storage/arrangement job    |
|   |   | 22. <input type="checkbox"/> Correction other than above         |
|   |   | 19. <input type="checkbox"/> Warning to                          |
|   |   | 20. <input type="checkbox"/> Discipline of                       |
|   |   | 21. <input type="checkbox"/> Preventive instruction              |

<b>Required Corrections.</b> What corrective actions will be taken to prevent recurrence of the incident?	Person Responsible	Target Date	Date Completed
1.			
2.			
3.			
4.			
5.			
6.			

Participants in Investigation:

Reviewed and Approved By:	Date:
Safety Manager:	Date:

Prepared by: \_\_\_\_\_ Date: \_\_\_\_\_  
Print Name

Signature: \_\_\_\_\_  
Preparer

**Witness Statement**  
**Supervisory Instructions**

Each person who witnessed the accident or who witnessed an event prior to the accident/incident, which may have a bearing on the accident/incident should be given a witness statement form to complete.

These statements must be typewritten or printed plainly in ink. Have each statement signed and dated by the witness.

If the witness refuses to fill out the statement form but describes the incident fill out the form yourself and request the witness to sign the form. If the witness refuses to sign the form, indicate so on the form.

Assign a different witness number (i.e. W-1, W-2, W-3, W-4, etc.) to each form.

**Witness Number: W-** \_\_\_\_\_



**Witness Statement**

**(PRINT CLEARLY IN INK)**

**Witness's Name:** \_\_\_\_\_

**Last                      First                      M.I.**

**Social Security Number:** \_\_\_\_\_ - \_\_\_\_\_ - \_\_\_\_\_ **Birth Date:** \_\_\_\_\_

**Employer:** \_\_\_\_\_

**Occupation:** \_\_\_\_\_

**Home Address:** \_\_\_\_\_

\_\_\_\_\_  
**City                      State                      Zip**

**Telephone:** \_\_\_\_\_

**Cell                      Other**

**Instructions:**

Complete all sections on this form and remember to sign and date the form. Use additional sheets if necessary. It is important to include the following elements in your statement:

1. Who - Who did you see, who was injured and / or involved in the accident/incident?
2. What - Give a brief description of the accident/incident?
3. When - Indicate time of day, date of accident/incident and any weather conditions (i.e. wet, clear, dark, dusty, foggy, etc.)?
4. How - According to what you saw, how did the accident/incident occur? What equipment was involved (including model, serial numbers, and license numbers, if known)?

**Witness Number: W- \_\_\_\_\_**

**Witness Statement (continued)**

(PRINT CLEARLY IN INK)

When: \_\_\_\_\_  
\_\_\_\_\_

Who: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

What: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Where: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

How: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**DRAW DIAGRAM/LOCATION**





## Photo Evidence Sheet

### Instructions

All photographs are to be identified by number and attached to a photo sheet. Pertinent information such as the number, time and date photos were taken, direction camera was pointing, and relationship to accident/incident below each photo.

Date of Accident / Incident:            /        /

Photos Taken By: \_\_\_\_\_  
  (Last)            (First)            (M.I.)

Job Title: \_\_\_\_\_

Sheet Prepared By: \_\_\_\_\_  
  (Last)            (First)            (M.I.)

### PHOTOS

Attach Photo Here

Time/Date Taken: \_\_\_\_\_

Direction Taken: \_\_\_\_\_

**Use as many pages as necessary to accommodate all photos!**



## Accident Investigation Participant(s) Log

### Instructions

It is important to note the name, affiliation, and purpose of each participant during the accident/incident investigation. Items such as persons interviewed, evidence taken, meetings and requests for information should be noted on this form. Duplicate this form if additional sheets are needed.

Name	Affiliation	Date	Notes
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

## Accident Investigation Narrative Report

**Instructions**

This report is to be completed by the supervisor in charge of the department where the accident/incident occurred. Attached sections must be completed and the report must be signed and dated.

The purpose of this report is to give a narrative summary of the significant events during and after the accident/incident. Persons and equipment involved, probable causes and corrective actions must be explained.

Use additional sheets as necessary.

**Pre-Accident/Incident Conditions/Events:** \_\_\_\_\_

\_\_\_\_\_

**Describe Accident/Incident:** \_\_\_\_\_

\_\_\_\_\_

**Root Cause(s):** \_\_\_\_\_

\_\_\_\_\_

**Describe Any Contributing Causes:** \_\_\_\_\_

\_\_\_\_\_

**Describe Corrective Action Taken:** \_\_\_\_\_

\_\_\_\_\_

**Post-Accident/Incident Events (i.e. conditions of equipment, tools, site, etc.):** \_\_\_\_\_

\_\_\_\_\_

**Comments:** \_\_\_\_\_

\_\_\_\_\_

**Investigator's Name:** \_\_\_\_\_

(Print)

**Position Title:** \_\_\_\_\_

(Print)

**Signature:** \_\_\_\_\_

**Date:** \_\_\_\_\_



**Hazard Assessment & Correction Record**

Date of Assessment: \_\_\_\_\_ Person Conducting Assessment: \_\_\_\_\_

Work Practice Assessed:

\_\_\_\_\_

Hazards, Unsafe Work Practices or Conditions Observed:

\_\_\_\_\_

\_\_\_\_\_

Recommended Corrective Action:

\_\_\_\_\_

\_\_\_\_\_

Corrective Action Taken:

\_\_\_\_\_

\_\_\_\_\_

Date of Assessment: \_\_\_\_\_ Person Conducting Assessment: \_\_\_\_\_

Work Practice Assessed:

\_\_\_\_\_

Hazards, Unsafe Work Practices or Conditions Observed:

\_\_\_\_\_

\_\_\_\_\_

Recommended Corrective Action:

\_\_\_\_\_

\_\_\_\_\_

Corrective Action Taken:

\_\_\_\_\_

\_\_\_\_\_

Comments: \_\_\_\_\_



## Safety Meeting – Toolbox Talk Sign-In Sheet

(Please Turn Off/Silence - Put Away Phones)

**Date:** \_\_\_\_\_ **Location:** \_\_\_\_\_

**Meeting Leader/Trainer:** \_\_\_\_\_ **Topic:** \_\_\_\_\_

**Circle Answers:**

1. Was Stop Work Authority (SWA) Discussed Today? **Yes No**
2. Any Recent SWA's **Yes No** When, Where, Discuss: \_\_\_\_\_
3. Do you know what to do in an emergency? **Yes No**
4. Recent Incidents/Injuries/Near Misses? **Yes No** When, Where, Discuss: \_\_\_\_\_
5. Do you know how to prevent heat related illnesses? **Yes No**
6. Do any of this week's tasks include caught in between or pinch point hazards? **Yes No**
7. Do you know where the nearest fire extinguisher is to your workstation? **Yes No**
8. Do any of this week's tasks include high hazard/high risk activities? **Yes No** If yes, briefly explain: \_\_\_\_\_

**Recent Safety Observations (Positive & Negative):** Mention recent hazards, near misses, and injuries (if any). What have you seen lately concerning safety that is good or bad?

#	Print Name (Legibly)	Signature
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		

**Sign In Continued on Next Page!**



**Safety Meeting – Toolbox Talk  
Sign-In Sheet**

**(Please Turn Off/Silence, Put Away Phones)**

**Date:** \_\_\_\_\_

**Location:** \_\_\_\_\_

**Meeting Leader/Trainer:** \_\_\_\_\_

**Topic:** \_\_\_\_\_

#	Print Name (Legibly)	Signature
16		
17		
18		
19		
20		
21		
22		
23		
24		
25		
26		
27		
28		
29		
30		
31		
32		
33		
34		
35		
36		
37		
38		
39		
40		



## Safety Meeting – Toolbox Talk Sign-In Sheet

(Please Turn Off/Silence, Put Away Phones)

Date: \_\_\_\_\_

Location: \_\_\_\_\_

Meeting Leader/Trainer: \_\_\_\_\_

Topic: \_\_\_\_\_

#	Print Name (Legibly)	Signature
41		
42		
43		
19		
44		
45		
46		
47		
48		
49		
50		
51		
52		
53		
54		
55		
56		
57		
58		
59		
60		



**Employee Safety Contact/Counseling Report**

Work Site: \_\_\_\_\_

Manager/Supervisor: \_\_\_\_\_

Employee Name: \_\_\_\_\_

Date: \_\_\_\_\_

Job Title: \_\_\_\_\_

Safety Concern:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Corrective Action:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Signed: \_\_\_\_\_  
Employee

Signed: \_\_\_\_\_  
Manager / Supervisor





## New Employee Safety Orientation Form

The Supervisor will verbally cover the following items with each new employee on the first day of their employment.

Employee Name: \_\_\_\_\_

Start Date: \_\_\_\_\_

Job Title/Position: \_\_\_\_\_

Instruction has been received in the following areas.

- 1. Code of Safe Practices
- 2. Hazard Communication (chemicals)
- 3. Driving Safety Rules (if new employee operates an HCS vehicle)
- 4. Safety Rule Enforcement Procedures
- 5. Immediately Reporting All Injuries, No Matter How Minor
- 6. Proper Method of Reporting Safety Hazards
- 7. Emergency Procedures and First Aid
- 8. Proper Work Clothing & Required Personal Protective Equipment
- 9. List All Equipment, Such as Lifts; Employee is Trained and Authorized to Use
- 10. Emergency Exits and Fire Extinguishers

\* Provide a Copy of New Employee Safety Info/Literature

I agree to abide by all HCS safety policies and the Code of Safe Practices. I also understand that failure to do so may result in disciplinary action and possible termination.

Signed \_\_\_\_\_ Date \_\_\_\_\_  
Employee

Signed \_\_\_\_\_ Date \_\_\_\_\_  
Supervisor



## **Receipt of Code of Safe Practices and Employee Safety Handbook**

This is to certify that I have received a copy of the Code of Safe Practices and Employee Safety Handbook. I have or will read these instructions and guidelines, understand them, and will comply with them while working for HCS.

I understand that failure to abide by these rules may result in disciplinary action and possible termination of my employment with HCS.

I also understand that I am to report any injury as soon as practicable to my supervisor or manager and report all safety hazards, unsafe acts, and unsafe conditions to my supervisor or manager.

I further understand that I have the following rights:

- I am not required to work in any area or perform any task that is not safe.
- I am entitled to information on any hazardous material or chemicals I am exposed to while working.
- I am entitled to an electronic copy of the Code of Safe Practices and the Employee Safety Handbook.
- I will not be discriminated against for reporting safety hazards, concerns, unsafe acts, and unsafe conditions.

---

**Print Name**

---

**Signature**

---

**Date**

**Copy:** Employee File



## Receipt of Company Vehicle Policy

This is to certify that I have received a copy of the Driving and Fleet Safety Policy concerning company vehicles. I have read these instructions, understand them, and will comply with them while driving company vehicles.

I understand that failure to abide by these rules will result in disciplinary action and possible suspension of my driving privileges and/or termination from employment.

I also understand that I am to report any accident to the office immediately.

---

**Print Name**

---

**Signature**

---

**Date**

**Copy:** Employee File



## Safety Committee Meeting Minutes

Date of Committee Meeting: \_\_\_\_\_ Location: \_\_\_\_\_

Minutes Prepared By: \_\_\_\_\_ Date: \_\_\_\_\_

Review of Safety Inspection and Plan of Correction: \_\_\_\_\_

---

---

---

Previous Business: \_\_\_\_\_

---

---

---

New Business: \_\_\_\_\_

---

---

---

Review of Accidents: \_\_\_\_\_

---

---

---

Plan of Correction: \_\_\_\_\_

---

---

---

Employee Suggestions: \_\_\_\_\_

---

---

---

Recommended Safety Training:

---

---

---

Additional Comments:

---

---

---

Safety Committee Meeting Attendance: (Complete a roster/sign in sheet using the Toolbox Talk Form).



## Vehicle Inspection Checklist

Driver Printed Name: \_\_\_\_\_ Date: \_\_\_\_\_

Vehicle: \_\_\_\_\_ Mileage: \_\_\_\_\_

The items on this inspection sheet should be checked daily. A separate sheet should be filled out for each vehicle driven. Example: If you drive vehicle #22 and swap to #28 during the day, 2 inspection sheets should be filled out for that day. These forms are due daily. Place an X by any item that needs attention. Place a check mark by the rest. Any discrepancies should be detailed on the bottom of this sheet.

- \_\_\_\_\_ Ignition Key
- \_\_\_\_\_ Fuel Key
- \_\_\_\_\_ Check Radio (Two-way check)
- \_\_\_\_\_ Visual Inspection for Exterior Damage/Leaks under vehicle
- \_\_\_\_\_ Check inside Engine compartment for Leaks/loose items
- \_\_\_\_\_ Oil Level
- \_\_\_\_\_ Washer Fluid Level
- \_\_\_\_\_ Coolant Level
- \_\_\_\_\_ Power Steering Fluid Level
- \_\_\_\_\_ Start Engine and check Transmission Fluid Level (Fluid should be hot)
- \_\_\_\_\_ Check for Air Gauge
- \_\_\_\_\_ Check Tires for wear and pressure **(70 PSI COLD)** LF \_\_\_\_\_ LR \_\_\_\_\_ RF \_\_\_\_\_ RR \_\_\_\_\_
- \_\_\_\_\_ Check Horn
- \_\_\_\_\_ Check Heater/Defroster
- \_\_\_\_\_ Check Windshield Wipers/Washers
- \_\_\_\_\_ Check Highlight/Signal lights/4way flashes/Tail lights/Backup lights/Horn
- \_\_\_\_\_ Check Lift, run one Complete Cycle
- \_\_\_\_\_ Check Interior lights
- \_\_\_\_\_ Check Mirrors for damage and adjustments
- \_\_\_\_\_ Check fuel level **(Should Not be Less Than ½ Tank)**
- \_\_\_\_\_ Check First Aid Kit on Board and full
- \_\_\_\_\_ Check Fire Extinguisher on board/Gauge showing charged, proper seal & pin
- \_\_\_\_\_ Check Adequate tie-downs/Tie-down Tracks (must be clean)
- \_\_\_\_\_ Check BIOHAZ KIT (Seal)
- \_\_\_\_\_ As you drive, continually check for any strange smells, sounds, vibrations, or anything that does not feel right.

\*Form to be completed and turned in to Shop Maintenance Manager DAILY.

The following discrepancies were noted: \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_

Driver's Signature: \_\_\_\_\_

Corrective Action Taken: \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_



### Facility Inspection Checklist

Department/Division: \_\_\_\_\_  
Date Of Inspection: \_\_\_\_\_  
Location: \_\_\_\_\_  
Inspector: \_\_\_\_\_

Criteria	Check One		Comments
	Yes	No	
<ul style="list-style-type: none"><li>• Are work areas properly illuminated?</li><li>• Is the ventilation system appropriated for the work performed?</li><li>• Are restrooms and washrooms kept clean and sanitary?</li><li>• Is potable water provided for drinking and washing?</li><li>• Are outlets for water not suitable for drinking clearly identified?</li><li>• Where heat stress is a problem, do all fixed work areas have air conditioning?</li><li>• Is the work area clean and orderly?</li><li>• Are floors kept clean and dry or have you taken appropriate measures to make floors slip resistant?</li> <li>• Are floors free from protruding nails, splinters, holes, etc.?</li><li>• Are permanent aisles and passageways clearly marked?</li><li>• Are aisles and passageways kept clear?</li><li>• Are pits and floor openings covered or guarded?</li><li>• Is combustible trash removed from the worksite daily?</li><li>• Are spilled materials or liquids cleaned up immediately?</li><li>• Is there safe clearance in aisles where motorized or mechanical handling equipment travel?</li></ul>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	
<b>FLOOR AND WALL OPENINGS, STAIRS AND STAIRWAYS</b>			
<ul style="list-style-type: none"><li>• Are floor openings guarded by covers or guardrails on all sides?</li><li>• Do skylights have screens or fixed railings that would prevent someone on the roof from falling through?</li> <li>• Are open pits and trap doors guarded?</li><li>• Are grates or similar type covers over floor openings such as floor drains, designed so that foot traffic or rolling equipment are not affected by grate spacing?</li> <li>• Are open-sided floors, platforms and runways having a drop of more than 4 feet guarded by a standard railing or toe board?</li><li>• Are standard stair rails or handrails on all stairways having four or more risers?</li> <li>• Are all stairways at least 22 inches wide?</li><li>• Do stairs have at least a 6-½ foot overhead clearance?</li><li>• Are step risers on stairs uniform from top to bottom?</li><li>• Are steps on stairs and stairways designed or provided with a slip-resistant surface?</li> <li>• Are stairway handrails located between 30 and 34 inches above the leading edge of stair treads?</li></ul>	<input type="checkbox"/> <input type="checkbox"/>  <input type="checkbox"/> <input type="checkbox"/>  <input type="checkbox"/> <input type="checkbox"/>  <input type="checkbox"/> <input type="checkbox"/>  <input type="checkbox"/> <input type="checkbox"/>  <input type="checkbox"/> <input type="checkbox"/>  <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/>  <input type="checkbox"/> <input type="checkbox"/>  <input type="checkbox"/> <input type="checkbox"/>  <input type="checkbox"/> <input type="checkbox"/>  <input type="checkbox"/> <input type="checkbox"/>  <input type="checkbox"/>	

## GENERAL WORK ENVIRONMENT

Criteria	Check One		Comments
	Yes	No	
<ul style="list-style-type: none"> <li>Are stairway handrails capable of withstanding a load of 200 pounds, applied in any direction?</li> </ul>	<input type="checkbox"/>	<input type="checkbox"/>	
<b>ELEVATED SURFACES</b>			
<ul style="list-style-type: none"> <li>Is the vertical distance between stairway landings limited to 12 feet or less?</li> <li>Are stairways adequately illuminated?</li> <li>Are signs posted showing the elevated surface load capacity?</li> <li>Do elevated work areas have a permanent means of access and egress?</li> <li>Are materials on elevated surfaces piled, stacked or racked in a manner to prevent tipping, falling, collapsing, rolling or spreading?</li> </ul>	<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"/>	
<b>EXITS AND EXIT DOORS</b>			
<ul style="list-style-type: none"> <li>Are all exits marked with an exit sign and illuminated by a reliable light source?</li> <li>Are exit routes clearly marked?</li> <li>Are doors, passageways or stairways that are neither exits nor access to exits, appropriately marked "NOT AN EXIT" or "STOREROOM" etc.?</li> <li>Are all exits kept free of obstructions?</li> <li>Are there sufficient exits to permit prompt escape in case of emergency?</li> <li>Do exit doors open in the direction of exit travel?</li> <li>Are doors that swing in both directions provided with viewing panels in each door?</li> <li>Are exits and exit routes equipped with emergency lighting?</li> </ul>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	
<b>ADDITIONAL REMARKS:</b>			



## Aerial Lift and Elevated Platform Safety Evaluation

This evaluation should be utilized to assure all company safety procedures related to aerial lift operation safety are recognized and followed.

Please check the items below where you observe that improvement is possible, and the corrective approach that addresses the risk factor.

NEEDS FOCUS	RISK FACTOR	CORRECTIVE APPROACH				
		1	2	3	4	5
	Fall protection plan established					
	Anchorage points established					
	Anchorage points rated for the proper weight limit					
	100% protection assured					
	Fall protection gear inspected					
	Warning lines established					
	Monitor in place (when and where allowed)					
	Floor/wall openings protected					
	Other (specify):					
	Other (specify):					
	Other (specify):					

**1=** Retraining

**2=** Assignment to work with safety mentor

**3=** Increased frequency of safety observations

**4=** Unsafe condition or “non-enabled task” that needs to be addressed

**5=** Present at team meeting

**Corrective action to be completed:**

(indicate who is responsible and corrective action date)

---



---



---



---



---





## EQUIPMENT DAILY INSPECTIONS BY THE WEEK

Daily Inspection Checklist for (identify equipment): \_\_\_\_\_

Date:	Date:	Date:	Date:	Date:
Operator's Name:	Operator's Name:	Operator's Name:	Operator's Name:	Operator's Name:
Operator's Signature:	Operator's Signature:	Operator's Signature:	Operator's Signature:	Operator's Signature:
Shift: <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3	Shift: <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3	Shift: <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3	Shift: <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3	Shift: <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3
<b>The Vehicle Inspection</b> <input type="checkbox"/> Oil level <input type="checkbox"/> Hydraulic oil level <input type="checkbox"/> Fuel Level <input type="checkbox"/> Check lift for leaks <input type="checkbox"/> Coolant level <input type="checkbox"/> Tire pressure <input type="checkbox"/> Condition of wheels/tires <input type="checkbox"/> Battery and charger <input type="checkbox"/> Ground control switches <input type="checkbox"/> Operation Manual	<b>The Vehicle Inspection</b> <input type="checkbox"/> Oil level <input type="checkbox"/> Hydraulic oil level <input type="checkbox"/> Fuel Level <input type="checkbox"/> Check lift for leaks <input type="checkbox"/> Coolant level <input type="checkbox"/> Tire pressure <input type="checkbox"/> Condition of wheels/tires <input type="checkbox"/> Battery and charger <input type="checkbox"/> Ground control switches <input type="checkbox"/> Operation Manual	<b>The Vehicle Inspection</b> <input type="checkbox"/> Oil level <input type="checkbox"/> Hydraulic oil level <input type="checkbox"/> Fuel Level <input type="checkbox"/> Check lift for leaks <input type="checkbox"/> Coolant level <input type="checkbox"/> Tire pressure <input type="checkbox"/> Condition of wheels/tires <input type="checkbox"/> Battery and charger <input type="checkbox"/> Ground control switches <input type="checkbox"/> Operation Manual	<b>The Vehicle Inspection</b> <input type="checkbox"/> Oil level <input type="checkbox"/> Hydraulic oil level <input type="checkbox"/> Fuel Level <input type="checkbox"/> Check lift for leaks <input type="checkbox"/> Coolant level <input type="checkbox"/> Tire pressure <input type="checkbox"/> Condition of wheels/tires <input type="checkbox"/> Battery and charger <input type="checkbox"/> Ground control switches <input type="checkbox"/> Operation Manual	<b>The Vehicle Inspection</b> <input type="checkbox"/> Oil level <input type="checkbox"/> Hydraulic oil level <input type="checkbox"/> Fuel Level <input type="checkbox"/> Check lift for leaks <input type="checkbox"/> Coolant level <input type="checkbox"/> Tire pressure <input type="checkbox"/> Condition of wheels/tires <input type="checkbox"/> Battery and charger <input type="checkbox"/> Ground control switches <input type="checkbox"/> Operation Manual
<b>Check Operations</b> <input type="checkbox"/> Horn <input type="checkbox"/> Gauges <input type="checkbox"/> Brakes <input type="checkbox"/> Lights <input type="checkbox"/> Steering <input type="checkbox"/> Emergency Controls <input type="checkbox"/> Backup alarm/ buzzer <input type="checkbox"/> Fire Extinguisher	<b>Check Operations</b> <input type="checkbox"/> Horn <input type="checkbox"/> Gauges <input type="checkbox"/> Brakes <input type="checkbox"/> Lights <input type="checkbox"/> Steering <input type="checkbox"/> Emergency Controls <input type="checkbox"/> Backup alarm/ buzzer <input type="checkbox"/> Fire Extinguisher	<b>Check Operations</b> <input type="checkbox"/> Horn <input type="checkbox"/> Gauges <input type="checkbox"/> Brakes <input type="checkbox"/> Lights <input type="checkbox"/> Steering <input type="checkbox"/> Emergency Controls <input type="checkbox"/> Backup alarm/ buzzer <input type="checkbox"/> Fire Extinguisher	<b>Check Operations</b> <input type="checkbox"/> Horn <input type="checkbox"/> Gauges <input type="checkbox"/> Brakes <input type="checkbox"/> Lights <input type="checkbox"/> Steering <input type="checkbox"/> Emergency Controls <input type="checkbox"/> Backup alarm/ buzzer <input type="checkbox"/> Fire Extinguisher	<b>Check Operations</b> <input type="checkbox"/> Horn <input type="checkbox"/> Gauges <input type="checkbox"/> Brakes <input type="checkbox"/> Lights <input type="checkbox"/> Steering <input type="checkbox"/> Emergency Controls <input type="checkbox"/> Backup alarm/ buzzer <input type="checkbox"/> Fire Extinguisher
<b>Platform Lift Equip Insp</b> <input type="checkbox"/> Lift/controls/switches <input type="checkbox"/> Placards and decals <input type="checkbox"/> Control ID labels <input type="checkbox"/> Handrails/guardrails <input type="checkbox"/> Safety chains <input type="checkbox"/> Platform deck <input type="checkbox"/> Steering <input type="checkbox"/> Backup alarm/buzzer <input type="checkbox"/> Outriggers	<b>Platform Lift Equip Insp</b> <input type="checkbox"/> Lift/controls/switches <input type="checkbox"/> Placards and decals <input type="checkbox"/> Control ID labels <input type="checkbox"/> Handrails/guardrails <input type="checkbox"/> Safety chains <input type="checkbox"/> Platform deck <input type="checkbox"/> Steering <input type="checkbox"/> Backup alarm/buzzer <input type="checkbox"/> Outriggers	<b>Platform Lift Equip Insp</b> <input type="checkbox"/> Lift/controls/switches <input type="checkbox"/> Placards and decals <input type="checkbox"/> Control ID labels <input type="checkbox"/> Handrails/guardrails <input type="checkbox"/> Safety chains <input type="checkbox"/> Platform deck <input type="checkbox"/> Steering <input type="checkbox"/> Backup alarm/buzzer <input type="checkbox"/> Outriggers	<b>Platform Lift Equip Insp</b> <input type="checkbox"/> Lift/controls/switches <input type="checkbox"/> Placards and decals <input type="checkbox"/> Control ID labels <input type="checkbox"/> Handrails/guardrails <input type="checkbox"/> Safety chains <input type="checkbox"/> Platform deck <input type="checkbox"/> Steering <input type="checkbox"/> Backup alarm/buzzer <input type="checkbox"/> Outriggers	<b>Platform Lift Equip Insp</b> <input type="checkbox"/> Lift/controls/switches <input type="checkbox"/> Placards and decals <input type="checkbox"/> Control ID labels <input type="checkbox"/> Handrails/guardrails <input type="checkbox"/> Safety chains <input type="checkbox"/> Platform deck <input type="checkbox"/> Steering <input type="checkbox"/> Backup alarm/buzzer <input type="checkbox"/> Outriggers
<input type="checkbox"/> Certified Operator Hours:	<input type="checkbox"/> Certified Operator Hours:	<input type="checkbox"/> Certified Operator Hours:	<input type="checkbox"/> Certified Operator Hours:	<input type="checkbox"/> Certified Operator Hours:

**If the equipment fails any part of this inspection, remove the key and report the problem to your supervisor. Do not attempt to make repairs unless you are a trained and authorized service person.**

**Malfunctions, damages or problems:** \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_



## Confined Space Entry Work Safety Assessment

Please check the items below where improvement is possible and indicate the approach to addressing the risk factor.

NEEDS FOCUS	RISK FACTOR IDENTIFIED	CORRECTIVE ACTION APPROACH				
		1	2	3	4	5
	Confined spaces posted					
	Authorized entrant					
	Ventilation					
	Monitoring prior to entry					
	Monitoring during entry					
	Review of work to be done in space prior to entry to determine atmosphere hazards and other hazards					
	Permit issued					
	Standby rescue procedures established					
	Personal protective equipment determined and used					
	Heat stress addressed					
	Safe egress and entry					
	Fall protection					
	Ladder safety					
	Scaffolding safety					
	Calibration of monitoring gear					
	Ventilating quickly to ensure thorough mixing					
	Other (specify):					
	Other (specify):					

- 1=** Retraining
- 2=** Assignment to work with safety mentor
- 3=** Increased frequency of Safety Observations
- 4=** Unsafe condition or “non-enabled task” that needs to be addressed
- 5=** Present at team meeting

Corrective action to be completed (Indicate who is responsible and corrective action date):

---



---



---



---



## Pre-Entry Checklist

**Entry is not permitted until these items are completed.**

OK	Needs action	
<input type="checkbox"/>	<input type="checkbox"/>	Before entering the permit space, the supervisor or designee must notify the rescue team.
<input type="checkbox"/>	<input type="checkbox"/>	A minimum of two employees must be assigned to work involving permit space entry. One employee must always remain outside the permit space .
<input type="checkbox"/>	<input type="checkbox"/>	The surrounding area must be surveyed to show that it is free of hazards such as drifting vapors from tanks, piping, sewers, or vehicle exhaust.
<input type="checkbox"/>	<input type="checkbox"/>	Other required permits, such as hot work permits, are obtained.
<input type="checkbox"/>	<input type="checkbox"/>	Those responsible for operation of the gas monitor have been trained.
<input type="checkbox"/>	<input type="checkbox"/>	Gas monitor calibration tests and functional test (fresh air calibration) have been performed this shift on the gas monitor.
<input type="checkbox"/>	<input type="checkbox"/>	The atmosphere will be continuously monitored while the space is occupied, if required by entry procedure.

This permit has been terminated for the following reason:

Work completed       Canceled      Time:      Note:

Supervisor's signature      Time:      Date:   /   /



### Confined Space Entry Permit

Permit Date: / / Work Shift: 1<sup>st</sup>  2<sup>nd</sup>  3<sup>rd</sup>  Expires: / /

Time Started: \_\_\_\_\_ Time Permit Expires: \_\_\_\_\_

Permit space to be entered (name and location): \_\_\_\_\_

Purpose of Entry: \_\_\_\_\_

- Entry Supervisor: \_\_\_\_\_ Signature: \_\_\_\_\_
- Entry Attendant: \_\_\_\_\_
- Authorized Entrants: \_\_\_\_\_
- Authorized Entrants: \_\_\_\_\_

#### Emergency contact information

Emergency Responder: \_\_\_\_\_ Phone Number: \_\_\_\_\_

Contact Person: \_\_\_\_\_ Time: \_\_\_\_\_

#### Pre-entry Requirements

Requirements	Yes	No	N/A	Requirements	Yes	No	N/A
Lockout - tagout/de-energize	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Hot work permit	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Pipes(s) broken or capped or blanked	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Fall arrest harness/lifeline/tripod	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Purge or flush or drain	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Personal protective equipment	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Ventilation:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Hardhat	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Secure area	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Gloves	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Safe lighting	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Safety glasses	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Non-sparking tools	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Respirator, type	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Communication method:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Other PPE:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Contractor employees involved	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Other PPE:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Additional info or equipment required for safety: \_\_\_\_\_

Space-monitoring results		Test 1	Test 2	Test 3	Test 4
<b>Monitor at least every four hours</b>	<b>Permissible entry levels</b>	Time: Initial:	Time: Initial:	Time: Initial:	Time: Initial:
Percent oxygen	19.5% to 23.5%				
Combustible gas	Less than 10% LEL				
Other toxic gas					
Other toxic gas					
<b>Gas Tester Name</b>	<b>Instrument Used</b>	<b>Model / Type</b>	<b>Serial Number</b>		

Names of trained, authorized individuals

<b>Possible atmospheric hazards</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>
Lack of oxygen	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Combustible gases	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Combustible vapors	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Combustible dusts	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Toxic gases/vapors	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Possible non-atmospheric hazards</b>			
Noise	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Chemical contact	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Electrical hazard	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Mechanical exposure	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Temperature extreme	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Engulfment	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Entrapment	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other non-atmospheric hazard	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>



## Scaffolding Safety Assessment Form

Please check the items below where improvement is possible and indicate an approach to addressing the risk factor.

NEEDS FOCUS	RISK FACTOR IDENTIFIED	CORRECTIVE ACTION APPROACH				
		1	2	3	4	5
	Proper scaffolding for task					
	Inspected and certified/tagged					
	Attached to building as needed (minimum or 30' horizontal and 26' vertical)					
	Toe- boards, mid-rails, handrails provided					
	End frames and leading edges properly protected with guard rail system					
	Exclusion zone established					
	Debris chute provided/contained					
	Debris chute installed in accordance with OSHA/manufacture requirements					
	Level and plumb					
	Stable base (all legs/footings)					
	Weight limit adhered to					
	No "homemade" system					
	Working surfaces fully planked immediately					
	Planks secured when necessary (cleats/nails)					
	Plans hooked on to end supports or overlap not less than 6 or more than 12 inches.					
	Defective scaffold members removed from service					
	Cross braces and other components removed for access or loading replaced immediately					
	Safe access/egress assured					
	Riding scaffolding (if allowed)					
	Other (specify):					
	Other (specify):					
	Other (specify):					

- 1=** Retraining
- 2=** Assignment to work with safety mentor
- 3=** Increased frequency of safety observations
- 4=** Unsafe condition or "non-enabled task" that needs to be addressed
- 5=** Present at team meeting

Corrective action to be completed (indicate who is responsible and corrective action date):

---



---



---

# OSHA Reporting Logs



Year \_\_\_\_\_  
 U.S. Department of Labor  
 Occupational Safety and Health Administration

Form approved OMB no. 1216-0176

Attention: This form contains information relating to employee health and must be used in a manner that protects the confidentiality of employees to the extent possible while the information is being used for occupational safety and health purposes.

## OSHA's Form 300 (Rev. 01/2004) Log of Work-Related Injuries and Illnesses

You must record information about every work-related injury or illness that involves loss of consciousness, restricted work activity or job transfer, days away from work, or medical treatment beyond first aid. You must also record significant work-related injuries and illnesses that are diagnosed by a physician or licensed health care professional. You must also record work-related injuries and illnesses that meet any of the specific recording criteria listed in 29 CFR 1904.12. See instructions for more information on this form. You must complete an injury and illness incident report (OSHA Form 301) or equivalent form for each injury or illness recorded on this form. If you're not sure whether a case is recordable, call your local OSHA office for help.

Establishment name \_\_\_\_\_  
 City \_\_\_\_\_ State \_\_\_\_\_

Identify the person		Describe the case				Classify the case			Enter the number of days the injured or ill worker was:		Check the "injury" column or choose one type of illness										
(A) Case No.	(B) Employee's Name	(C) Job Title (e.g., Welder)	(D) Date of injury or illness (mo./day)	(E) Where the event occurred (e.g., Loading dock north end)	(F) Describe injury or illness, parts of body affected, and object/substance that directly injured or made person ill (e.g., Second degree burns on right forearm from propane torch)	CHECK ONLY ONE box for each case based on the most serious outcome for that case:			On job transfer or restriction (days)	Awful From Work (days)	On job transfer or restriction (days)	Death	Days away from work	Job transfer or restriction	Other recordable cases	Remained at work	Respiratory Condition	Poisoning	Hearing Loss	All Other Illnesses	
(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(O)	(P)	(Q)	(R)	(S)	(T)	(U)	(V)	(W)	(X)	(Y)	(Z)	(AA)	
<b>Page totals</b>						0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Be sure to transfer these totals to the Summary page (Form 300A) before you post it.

Public reporting burden for this collection of information is estimated to average 15 minutes per response, including time for reviewing instructions, searching existing data sources, gathering the data needed, and completing and reviewing the collection of information. Persons are not required to respond to the collection of information unless it displays a currently valid OMB control number. If you have any comments about these estimates or any aspect of this data collection, contact: US Department of Labor, OSHA, Office of Statistics, Room N-3644, 200 Constitution Ave, NW, Washington, DC 20210. Do not send the completed forms to this office.



Year \_\_\_\_\_

U.S. Department of Labor  
Occupational Safety and Health Administration

Form approved OSHA No. 12-16-217E

# OSHA's Form 300A (Rev. 01/2004) Summary of Work-Related Injuries and Illnesses

All establishments covered by Part 1924 must complete this Summary page, even if no injuries or illnesses occurred during the year. Remember to review the Log to verify that the entries are complete.

Using the Log, count the individual entries you made for each category. Then write the totals below, making sure you've added the entries from every page of the log. If you had no cases write "0."

Employers, former employers, and their representatives have the right to review the OSHA Form 300 in its entirety. They also have limited access to the OSHA Form 301 or its equivalent. See 29 CFR 1904.38. In OSHA's Recordkeeping rule, for further details on the access provisions for these forms.

### Number of Cases

Total number of deaths	Total number of cases with days away from work	Total number of cases with job transfer or restriction	Total number of other recordable cases
0 (G)	0 (H)	0 (I)	0 (J)

### Number of Days

Total number of days away from work	Total number of days of job transfer or restriction
0 (K)	0 (L)

### Injury and Illness Types

Total number of... (M)	(1) Injury	(2) Skin Disorder	(3) Respiratory Condition	(4) Poisoning	(5) Hearing Loss	(6) All Other illnesses
0	0	0	0	0	0	0

Post this Summary page from February 1 to April 30 of the year following the year covered by the form

Public reporting burden for this collection of information is estimated to average 30 minutes per response, including time to review the instruction, search and gather the data needed, and complete and review the collection of information. Persons are not required to respond to the collection of information unless it displays a currently valid OMB control number. If you have any comments about these estimates of any aspect of this data collection, contact: US Department of Labor, OSHA, Office of Statistics, Room N-3644, 200 Constitution Ave. NW, Washington, DC 20010. Do not send the completed forms to this office.

### Establishment Information

Your establishment name \_\_\_\_\_  
 Street \_\_\_\_\_  
 City \_\_\_\_\_ State \_\_\_\_\_ Zip \_\_\_\_\_  
 Industry description (e.g., Manufacture of motor truck trailers) \_\_\_\_\_  
 Standard Industrial Classification (SIC), if known (e.g., 810 3715) \_\_\_\_\_  
 OR, Non-American Industrial Classification (NAICS), if known (e.g., 336212) \_\_\_\_\_

### Employment Information

Annual average number of employees \_\_\_\_\_  
 Total hours worked by all employees last year \_\_\_\_\_

Sign here \_\_\_\_\_

Knowingly falsifying this document may result in a fine.

I certify that I have examined this document and that to the best of my knowledge the entries are true, accurate, and complete.

Company executive \_\_\_\_\_ Title \_\_\_\_\_  
 Phone \_\_\_\_\_ Date \_\_\_\_\_

\*\*\* The OSHA 300 and 300A logs can be found at <https://www.osha.gov/recordkeeping/RKforms.html>