HIGHLINE
STEEL SYSTEMS

Safety Manual

1701 W. Northwest Hwy
Grapevine, TX 76051

Safety Manual

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Highline Steel Systems

Health and Safety Policy Statement

It is the policy of Highline Steel Systems to provide a safe and healthy work environment for all of its workers. The company considers no phase of operations or administration is of greater importance than injury and illness prevention. Safety takes precedence over expediency or shortcuts. Every accident and every injury is avoidable. At our company, we believe every accident and every injury is avoidable. We will take every reasonable step to reduce the possibility of injury, illness, or accident. The practices and procedures presented in this Safety Manual and any supplemental documents associated with it are binding on all company employees while engaged in the subject work. In addition, all job site visitors and other sub-contractors employed by us shall abide by these rules as the minimum acceptable standard for the site. Operational changes to this manual and supplements that could affect the health or safety of personnel, the community, or the environment will not be made without prior approval of the company owner and the assigned Safety Coordinator.

Paola Page, Owner

ACCIDENT PREVENTION & REPORTING

A vital element of maintaining safe work practices is accident prevention. The following actions are instrumental to accident prevention, and shall be communicated to all personnel and sub-contractors employed by HSS Constructing, Inc.:

- Eliminate unsafe conditions. Efforts shall be initiated and implemented throughout the project to identify conditions that can contribute to an accident, and to remove exposure to these conditions.

- Reduce unsafe acts. Employees shall make a conscious effort to work safely. A high degree of safety awareness shall be maintained so that safety factors are an integral part of each task. Daily safety briefings shall be designed to heighten general safety awareness and will be tailored to the individual job and tasks each day.

- Inspect frequently. Regular safety inspections of the work site, material, equipment, and operations by qualified persons shall be performed to ensure early detection of unsafe conditions. Safety and health deficiencies shall be corrected as soon as possible, or site activities shall be suspended.

- Train personnel concerning the requirements of the job. On-the-job training shall be provided and documentation kept on file.

- Report ALL accidents. All accidents (i.e. falls, injuries, and near misses) shall be investigated immediately and reported to the contractor. A report documenting an injury shall be written and forwarded the contractor.

DISCIPLINARY ACTION AND ENFORCEMENT

Highline Steel Systems seeks to establish and maintain standards of employee conduct and supervisory practices which will support and promote safe and effective business operations. These supervisory practices include administering corrective action when employee safety performance or conduct jeopardizes this goal. This policy sets forth general guidelines for a corrective action process aimed to document and correct undesirable employee behavior. Major elements of this policy include:

A. Constructive criticism/instruction by the employee's supervisor/foreman to educate and inform employees of appropriate safety performance and behavior.

B. Correcting employee's negative behavior to the extent required.

C. Informing the employee that continued violation of company safety policies may result in termination.

D. Written documentation of disciplinary warnings and corrective action taken.

Depending on the facts and circumstances involved with each situation, the company may choose any corrective action including immediate termination. However, in most circumstances the following steps will be followed:

1. **VERBAL WARNING** informally documented, by supervisor/foreman or safety coordinator for minor infractions of company safety rules. Supervisor/foreman or safety coordinator must inform the employee what safety rule or policy was violated and how to correct the problem.

2. **WRITTEN WARNING**, documented in employee's file. Repeated minor infractions or a more substantial safety infraction requires issuance of a written warning. Every attempt should be made to re-educate the employee on the desired performance. The employee should acknowledge the warning by signing the document before it is placed in their personnel file.

3. **SUSPENSION**, for three (3) working days. If employee fails to appropriately respond or management determines the infraction is sufficiently serious.

4. **TERMINATION**, for repeated or serious safety infractions.

Training Log		
Date	**Topic**	**Trainee**

Highline Steel Systems

Hazard Communication Program

1.0 Introduction

The employees have the right to know what types of hazardous chemicals they are using or exposed to in their jobs and the health hazards associated with them. A "hazardous chemical" is defined as any chemical that is a physical hazard or a health hazard.

The chemical suppliers will provide us with information about the hazardous chemicals we purchase from them through material safety data sheets (Now known as SDS) and labels. We will train all affected employees on safe methods for using these chemicals and will provide access to the information provided by our suppliers.

This written program will be implemented to meet the requirements of §1910.1200, and it consists of the following six elements:

1. Preparation of an inventory of chemicals on hand
2. Maintenance of the MSDSs and hazardous chemical lists
3. Providing or ensuring appropriate labeling of chemicals
4. Providing employee training and proper PPE
5. Providing hazardous chemical information to contractors
6. Making employees aware of this written plan

2.0 Requirements for MSDS

1. The Safety Coordinator will be responsible for implementing and maintaining this program at the plant.
2. The supervisor of each operational area will retain the MSDSs for the chemicals used in that area.
3. The Purchasing Department will inform the Safety Coordinator when a new chemical is purchased.
4. The Safety Coordinator will check the adequacy of labeling and MSDSs provided by the supplier.
5. The Safety Coordinator will then make sure that the information from the MSDS is updated into the MSDS Pro Database.
6. The original MSDS should be sent to the departmental supervisor with the arrival of the chemicals.
7. No chemicals should be delivered to any department without the MSDS and labels.
8. Once the supervisor receives the chemical and the attached MSDS, he will review the information and determine whether it is a new chemical. The MSDS will be filed in the supervisor's office. If it is a new chemical, or new information about a current chemical, the supervisor will inform affected employees and train them appropriately. All employees should be shown the MSDSs and know where they can access the MSDSs.
9. An annual review will be performed to ensure that all chemicals used at the plant have MSDSs and the information is up to date in the MSDS Pro databse.

3.0 Labeling Requirements

No container of a hazardous chemical is to be used if a label is missing. Piping systems that contain hazardous chemicals must also be labeled. The labels should have been provided by the chemical supplier. Information on the labels should include:

- The name of the contents
- Hazard warnings
- The name and address of the manufacturer

If hazardous chemicals need to be moved from bulk containers to smaller containers, the line supervisor must make sure that a label or tag containing the same information is provided for the smaller containers. The supervisor is responsible for making these labels. Labels can be made using a computer or label maker, or handwritten tags or batch tickets can be used. If a transfer to a smaller container is made only for the immediate use of the employee who made the transfer, no labeling is required on the smaller container.

4.0 Employee Information and Training

All employees will attend an annual hazardous chemical overview training session. The following information will be provided:

- An overview of the requirements of the hazard communication standard and the company's program
- The location and availability of this written program and the MSDSs
- How to read the MSDSs and labels and understand the terminology
- How to lessen or prevent exposure to these substances through safe work practices, PPE, and engineering controls
- What to do in the event of a spill or accidental contact with the chemicals

The supervisor will review with every affected employee the specific procedures and PPE to be used with each new chemical when it arrives in the department. The supervisor will also review the MSDS and label for each new chemical and show the employee where the information is filed.

5.0 Outside Contractors

When outside contractors are working in areas in which hazardous chemicals are used by our company, the supervisor who hired the contractor must ensure that all MSDSs are provided to the contractor and staff. The task of training the contractor's employees on these hazardous chemicals is the responsibility of the contractor.

In turn, the supervisor who hired the contractor must insist that all information and MSDSs for hazardous chemicals used by the contractor in locations in which our employees could be affected are supplied. The supervisor will then inform our employees.

Use the attached form to document that communication of hazardous chemical has occurred with the contrator. (See attached)

6.0 Written Plan

This written plan is available to employees, their designated representatives and on request, to OSHA officials. Copies may be obtained from the Safety Coordinator.

7.0 Specific Toxic Substances

Certain toxic substances, such as lead, Silica, or asbestos, require additional procedures and precautions, including exposure monitoring and medical surveillance. See OSHA Regulations—Subpart Z for specific requirements for each of these substances. The following is an outline that can be used to organize the information if the employees are using or are exposed to any of these toxic substances.

Name of Toxic Substance:_____
Exposure Limits:_____
Engineering Controls:_____
PPE required: _____

Exposure Monitoring

- Areas to be monitored:
- Method of monitoring:
- Frequency and responsibility for monitoring:

Medical Surveillance

- Employees to be monitored:
- Method of surveillance:
- Frequency and responsibility for monitoring:
- Notification procedures:
- Medical and administrative controls:

Recommended Work Practices:_____
Training Schedule:_____
Recordkeeping: _____

CHECKLIST

( ) An up-to-date inventory of all hazardous chemicals is developed and maintained.
( ) MSDSs are organized, updated, and accessible to all exposed personnel in the work area.
( ) Training is provided to all employees who are using or are exposed to hazardous chemicals.
( ) Appropriate PPE is provided to all employees who use these chemicals.

( ) Complete labels are provided for all containers, vats, and pipes that hold hazardous chemicals.

( ) Contractors are informed of all hazardous chemicals located in the area in which their work is to be performed.

OUTSIDE CONTRACTOR
CHECKLIST

Contractor Name:_____

Area Working:_____

Supervisor who hired Contractor:_____

Are there any hazardous chemicals used in the area that contractor is working?

_____Yes _____No

If "Yes" were all MSDS provided to the contractor and staff? Yes __No ____

List chemicals in area:

_____ _____ _____

_____ _____ _____

_____ _____ _____

_____ _____ _____

Is Contractor bringing in any hazardous chemicals to work area? Yes___No___

If "Yes" were all MSDS provided to all company employees that could be affected?

_____ Yes _____No

List chemicals being brought into job site by contractor:

_____ _____ _____

_____ _____ _____

_____ _____ _____

_____ _____

Responsible Supervisor Contractor Signature

Highline Steel Systems

Fall Protection Program

1.0 Introduction

The purpose of this program is to specify procedures and training for the safety of Highline Steel Systems employees while working on elevated surfaces and ladders, and to comply with OSHA standards that are outlined in 29 CFR §1926.500. Company employees who work at heights of 6 feet or greater are required to attend training on fall protection. Additionally, those employees working on aerial platforms, scissors lifts or other elevated platform equipment must receive training on the use of such equipment.

2.0 Scope

This program applies to all employees that perform any duties on an elevated work surface where there is a fall hazard of 6 feet or more to a lower level. Employees will not be allowed to perform any duties which require the employee to get closer than 6 feet to an unprotected edge, platform, walkway, or utilize elevated equipment unless the employee is properly secured from falling.

Exceptions: Employees may work without fall protection in the circumstances listed below.

- At the working sides of loading docks
- When working on scaffolds and aerial lifts up to 6 feet in height
- When working on the edge of an excavation up to 6 feet in depth

Additionally, this program shall apply to all employees in order to minimize slips, trips and falls on the same elevation. All employees shall control fall hazards in their work area by maintaining good housekeeping and shall report conditions that may lead to slips, trips and falls to their supervisor.

Contractors working at HSS Contracting job sites are required to comply with all applicable OSHA workplace safety regulations and shall have their own fall protection program. Contractor's safety programs shall be available for review upon request by representatives of the company.

3.0 Definitions

Aerial lift device: Equipment such as powered platforms, vehicle-mounted elevated and rotating work platforms, extensible boom platforms, aerial ladders, articulating boom platforms, vertical towers and powered industrial truck platforms.

Anchor point: A secure point of attachment for lifelines, lanyards or deceleration (grabbing) devices.

Body harness (also referred as Full-body harness): An interconnected set of straps that may be secured about a person in a manner that distributes the fall arrest forces over at

least the thighs, pelvis, waist, chest, and shoulders with a means for attaching the harness to other components of a personal fall arrest system.

Deceleration device: Any mechanism, such as a rope, grabbing device, ripstitch lanyard, specially woven lanyard or automatic self-retracting lifeline/lanyard, which serves to dissipate a substantial amount of energy during a fall arrest, or otherwise limits the energy imposed on an employee during fall arrest.

Deceleration distance: The additional vertical distance a falling person travels, excluding lifeline elongation and free fall distance, before stopping, from the point at which a deceleration device begins to operate.

Guardrail: A barrier at least 42 inches high erected to prevent personnel from falling from working levels more than 30 inches above the floor, ground, or other working areas of a building.

Lanyard: A flexible line of rope or strap that generally has a connector at each end for connecting the body harness to a deceleration device, lifeline or anchor point.

Lifeline: A component consisting of a flexible line for connection to an anchorage at one end to hang vertically (vertical lifeline), or for connection to anchorages at both ends to stretch horizontally (horizontal lifeline). This serves as a means for connecting other components of a personal fall arrest system to the anchorage.

Positioning device system: A body harness system rigged to allow an employee to be supported on an elevated vertical surface such as a wall and work with both hands free while leaning.

Personal fall arrest system: A system used to arrest an employee in a fall from a working level. It consists of an anchorage, connectors, and body harness and may include a lanyard, deceleration device, lifeline, or suitable combinations of these.

Restraint line: A device, which is attached between the employee and an anchorage to prevent the employee from walking or falling off an elevated surface.

Rope grab (grabbing device): A deceleration device that travels on a lifeline and automatically, by friction, engages the lifeline and locks to arrest a fall.

Self-retracting lifeline/lanyard: A deceleration device containing a drum-wound line which can be slowly extracted from, or retracted onto, the drum under minimal tension during normal movement and which, after onset of a fall, automatically locks the drum and arrests the fall (usually within two feet or less).

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

Toe board: A low protective barrier that prevents material and equipment from falling to lower levels and which protects personnel from falling.

Unprotected sides and edges: Any side or edge (except at entrances to points of access) of a walking/working surface, e.g., floor, roof, ramp, or runway where there is no wall or guardrail system at least 1 meter (39 inches) high.

Vertical Lifeline: A component consisting of a vertically hanging flexible line for connection to an anchor point at one end that serves as a means for connecting other components of a personal fall arrest system to the anchor point.

4.0 Responsibilities

Supervisors

- Responsible for ensuring that all requirements listed in the written program for fall protection are met
- Responsible for ensuring new and existing employees receive fall protection training as applicable to their job duties
- With the assistance of the Safety Coordinator, are responsible for identifying elevated work areas
- Responsible for ensuring that all contactors meet the requirements of company plan

Safety Coordinator

- Responsible for conducting periodic visits to elevated work locations. The purpose of these visits is to inspect equipment and to observe employees' procedures while working at elevated levels
- Responsible for arranging for required training of employees in fall protection and in the safe use of elevating personal platforms
- Evaluate other elevated work locations identified by supervisors for fall protection requirements
- General oversight of this program

Employees

- Employees whose duties involve work activities at elevated locations are required to comply with the rules of operations and accepted safety practices outlined within this written program

5.0 Program Components

5.1 The following work situations are covered by this fall protection program:

- Ladders - fixed, free standing, temporary, or roll away type

- Elevating Personal Platforms – scaffolds, aerial platforms, scissors lifts, forklift-mounted platforms, cherry pickers, etc.
- Elevated Surfaces – roofs (closer than 6 feet to the edge), roof openings, catwalks, etc.
- Vertical Opening - ground level entry into excavations, trenches, holes, pits, vessels, and other confined spaces.

5.2 Fall protection is required whenever work is performed in an area 6 feet above its surroundings and can generally be provided through the use of fall protection systems including:

- Guardrails - Standard guardrails consist of a top rail, located 42 inches ($\pm$ 3 inches is acceptable), and a mid-rail, located at 21 inches, above the floor. Screens and mesh may be used to replace the mid-rail, so long as they extend from the top rail to the floor.
- Personal Fall Arresting Systems - Components of a personal fall arresting system include a body harness, lanyard, lifeline, connector, and an anchorage point capable of supporting at least 5000 pounds.
- Positioning Device Systems - Positioning device systems consist of a body belt or harness rigged to allow work on a vertical surface, such as a wall, with both hands free.
- Warning Line Systems - Warning line systems are made up of lines or ropes installed around a work area on a roof. These act as a barrier to prevent those working on the roof from approaching it edges.
- Covers - Covers are fastened over holes in the working surface to prevent falls.

Where it can be clearly demonstrated that the use of these systems is infeasible or creates a greater hazard, alternative fall protection measures may be implemented. These alternative measures must be approved by Company Management, with consultation and input from the Safety Coordinator.

5.3 Following are guidelines for employees using specific equipment:

5.3.1 Employees who work on ladders with a working height of 6 feet or more shall be knowledgeable of the following:

- How to inspect ladders for visible defects
- How to use ladders properly: 3-point contact

Additional information on ladder safety can be found in company's Ladder Safety Program.

5.3.2 Employees who use personal fall arresting systems to control fall hazards in their work area shall be knowledgeable of the following:

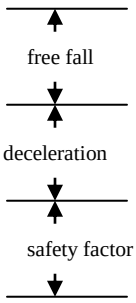
- The application limits of the equipment

- The proper hook-up, anchoring and tie-off techniques including determination of elongation and deceleration distance
- Methods of use, inspection, and storage of equipment

Personal fall arrest components including harnesses and lanyards **shall be inspected prior to each** use for mildew, wear, damage and other deterioration. A list of items that should be inspected for the various components of a fall arrest system can be found in Attachment A. Defective components shall be removed immediately from service and destroyed.

Fall arrest systems including harnesses shall be inspected at least twice each year or according to manufacturer's recommendations. The date of the most current semi-annual inspection shall be recorded on an inspection tag which shall be attached to the harness. In addition, records shall be kept and maintained showing the date of purchase, date when the entire harness assembly was inspected, date of the inspection, and the name of the inspector (See example of inspection form in Attachment B).

In selecting the proper fall arrest system, certain guidelines should be followed. One of which is the maximum free fall distance should not exceed 6 feet. The work location at which the fall arrest system is being used should provide enough clearance for the fall. See diagram below.



General Rule "You need 12.5 ft of clearance with a 6 ft lanyard."

- 6.0 ft for free fall
- 3.5 feet for deceleration
- 1.0 ft for D-ring slide
- 2.0 ft for safety factor

12.5 ft clearance required

5.3.3 Employees who use aerial lifts shall be knowledgeable of the following:

- The manufacturer's operating instructions
- Pre-start inspection of the lift
- Inspection of the work area for dangerous conditions such as uneven surfaces, overhead obstructions such as power lines, or other hazards
- Load capacities of the equipment
- How to safely move the equipment

- How to prevent falls and use appropriate fall protection personal protective equipment
- Minimum safe approach distances to energized power lines

5.3.4 Employees who work on scaffolds shall be knowledgeable of the following:

- The nature of any electrical hazards, fall hazards, and falling object hazards in the work area
- The correct procedures for dealing with electrical hazards and for erecting, maintaining, and dissembling the fall protection systems and falling object protection systems being used
- The proper use of the scaffold, and the proper handling of materials on the scaffold
- The maximum intended load and the load carrying capacities of the scaffolds

5.3.5 All employees should be aware of guidelines to minimize slips, trips and falls on the same elevation of walking/working surfaces.

- To prevent slipping, tripping and falling, all work environments including passageways, storerooms, and service areas must be kept clean, orderly and in a sanitary condition
- The floor of every work area will be maintained in a clean and, so far as possible, dry condition
- Where wet processes are used, drainage will be maintained

6.0 Storage and Maintenance of Fall Protection Equipment

- Never store the personal fall arrest equipment in the bottom of a tool box, on the ground, or outside exposed to the elements (i.e., sun, rain, snow, etc.)
- Hang equipment in a cool dry location in a way that retains its shape
- Always follow manufacturer recommendations for inspection
- Clean according to manufacturer recommendations, typically with a mild, nonabrasive soap, and hang to dry
- Never dry using heat or sun exposure or use strong detergents in cleaning
- Never store equipment near excessive heat, chemicals, moisture, or sunlight
- Never store in an area with exposures to fumes or corrosives elements
- Avoid dirt and build-up on equipment
- Never use this equipment for any purpose other than personal fall arrest
- Once exposed to a fall, remove equipment from service immediately and destroy.

7.0 Reporting Requirements

Constant awareness and respect for fall protection procedures and compliance with all applicable safety rules is mandatory. Supervisors may issue warnings and implement disciplinary actions up to and including termination for failure to follow the guidelines of this program. Employees shall report any safety concerns to their supervisor.

8.0 Training Requirements and Competency Assessment

Under no circumstances will any employee work in areas of high fall hazards, perform work requiring fall protection devices, or use fall protection devices until he has attended training in fall protection. This includes all new employees regardless of previous experience. The training program includes classroom instruction and operational training on specific fall hazards.. The training program must include recognition of the fall hazards and procedures to follow to minimize these hazards. Training materials must be reviewed to verify that each employee with the possibility of being exposed to these hazards has been trained by a competent person qualified in the following areas:

- the nature of fall hazards in the work area
- the correct procedures for erecting, maintaining, disassembling, and inspecting the fall protection systems to be used
- the use and operation of guardrail systems, personal fall arrest systems, warning line systems, and other protection to be used
- the role of each employee in the safety monitoring system when this system is used
- the correct procedures for the handling and storage of equipment and materials and the erection of overhead protection
- the role of employees in fall protection plans understanding and following all components of this fall protection program

In addition to the required annual training, employees will require retraining under any of the following conditions:

- Changes in the workplace that render previous training obsolete
- Changes in the types of fall protection systems or equipment to be used that render previous training obsolete
- Inadequacies in an employee's knowledge of use of fall protection systems or equipment or observed behavior indicate that the employee has not retained the required training

Attachment A

Inspection Checklist for Fall Arrest System

The items below should be inspected before each use.

Full Body Harnesses

- Closely examine all of the nylon webbing to ensure there are no burn marks, which could weaken the material
- Verify there are no torn, frayed, broken fibers, pulled stitches, or frayed edges anywhere on the harness
- Examine D-ring for excessive wear, pits, deterioration, or cracks
- Verify that buckles are not deformed, cracked, and will operate correctly
- Check to see that all grommets (if present) are secure and not deformed from abuse or a fall
- Harness should never have additional punched holes
- All rivets should be tight, not deformed
- Check tongue/straps for excessive wear from repeated buckling
- If found defective, the harness must be destroyed

Lanyards/Shock Absorbing Lanyards

- Check lanyard material for cuts, burns, abrasions, kinks, knots, broken stitches and excessive wear
- Inspect the snap hooks for hook, locks, and eye distortion
- Check carabiner for excessive wear, distortion, and lock operation
- Ensure that all locking mechanisms seat and lock properly
- Once locked, locking mechanism should prevent hook from opening
- Visually inspect shock absorber for any signs of damage, paying close attention to where the shock absorber attaches to the lanyard
- Verify that points where the lanyard attaches to the snap hooks are free of defects

Snaphooks/Carabiners

- Inspect snap hook for any hook and eye distortions
- Verify there are no cracks, pitted surfaces, and eye distortions
- The keeper latch should not be bent, distorted, or obstructed
- Verify that the keeper latch seats into the nose without binding
- Verify that the keeper spring securely closes the keeper latch
- Test the locking mechanism to verify that the keeper latch locks properly

Self-Retracting Lanyards

- Visually inspect the body to ensure there is no physical damage to the body
- Make sure all back nuts or rivets are tight
- Make sure the entire length of the nylon strap is free of any cuts, burns, abrasions, kinks, knots, broken stitches, and excessive wear and retracts freely
- Test the unit by pulling sharply on the lanyard to verify that the locking mechanisms operating correctly
- If manufacturer requires, make certain the retractable lanyard is returned to the manufacturer for scheduled annual inspections

Attachment B

Fall Arrest System Inspection Form

Harness ID	Date Purchased	Date Entire Harness Assembly Inspected	Results/Comments	Inspector

Highline Steel Systems

Hearing Conservation Program

1.0 Introduction

Occupational noise can cause hearing loss, and it may also create other workplace problems including physical and psychological disorders, interference with speech and communication, and disruption of job performance associated with excessive noise. The loss of hearing may be temporary or permanent. Brief exposure causes a temporary loss, and repeated exposure to high noise levels will cause a permanent loss.

Permanent hearing loss is preventable with the continued use of proper hearing protection and reduction of workplace noise levels to below 85 decibels. The purpose of this hearing conservation program is to prevent occupational hearing loss and to comply with the Occupational Safety and Health Administration (OSHA) Standard 29 CFR 1910.95 - Occupational Noise Exposure.

2.0 Application

Standard 29 CFR 1910.95 establishes a permissible exposure limit(PEL) for occupational noise exposure, and requirements for audiometric testing, hearing protection, and employee training if those sound levels are exceeded. This regulation defines an "action level" (AL) as a "dose" of 50%, which is equivalent to an eight-hour time weighted average of 85 dBA. When noise levels exceed this amount, an effective hearing conservation program is required, which includes as a minimum:

Requirement	**Section**
1. Noise monitoring	29 CFR 1910.95(d)(e)(f)
2. Audiometric testing	29 CFR 1910.95(g)(h)
3. Hearing protectors	29 CFR 1910.95(i)(j)
4. Education and training	29 CFR 1910.95(k)(1)
5. Recordkeeping	29 CFR 1910.95(m)

Note: The OSHA regulation only indicates a minimum level of hearing protection and focuses on permanent hearing loss over the long-term. Short durations of noise, especially sharp bursts of noise at high levels, can also induce hearing (See Table # 1 in Attachment).

3.0 Responsibilities

Company Management
- Ensure that this program is implemented at the plant level
- Provide resources and support for the program

Field Managers
- Ensure that all employees comply with the program
- Provide training to the employees as necessary

Safety Coordinator

- Coordination and supervision of noise exposure monitoring
- Coordination and supervision of audiometric testing program
- Supervision of hearing protector selection
- Supervision of employee training programs
- Coordination and supervision of required recordkeeping
- Periodic evaluation of overall program
- Coordination of required changes/improvements in the program

Employees

- Comply with the provisions of program
- Discuss with supervisor if employee has any concerns or questions relating to the program

4.0 Noise Monitoring

- A baseline noise exposure level survey will be performed in work areas where the noise level is suspected to be at or above 85 decibels (dB) (averaged over 8 working hoursTWA), and where the employees are potentially exposed to these areas.
- The instrument used to monitor employee exposure must be carefully checked and/or calibrated before each survey to ensure its accuracy.
- Monitoring shall be repeated whenever a change in production, process, equipment or controls increases noise exposures to the extent that:
  1) Additional employees may be exposed at or above the action level; or
  2) The attenuation provided by hearing protectors being used by employees may be rendered inadequate.
- Records of the noise monitoring surveys will be kept indefinitely.
- The results of the noise monitoring surveys will be recorded on Form #1 found in the Attachment.

5.0 Audio Metric Testing

<u>Baseline Testing</u>

- Within 6 months of an employee's hire date, a baseline audiogram will be conducted.
- Testing to establish a baseline audiogram shall be preceded by at least 14 hours without exposure to workplace noise. Hearing protectors may be used as a substitute for the requirement that baseline audiograms be preceded by 14 hours without exposure to workplace noise.
- The supervisor shall notify employees of the need to avoid high levels of non-occupational noise exposure during the 14-hour period immediately preceding the audiometric examination.

Annual Testing

- Audiograms will be conducted at least annually after obtaining the baseline audiogram for each employee exposed at or above an 8-hour time-weighted average of 85 decibels.
- The Safety Coordinator will maintain a record of all employee audiometric test records. This record will include:
    1. Name and job classification of the employee.
    2. Date of the audiogram.
    3. The examiner's name.
    4. Date of the last acoustic or exhaustive calibration of the audiometer.
    5. Employee's most recent noise exposure assessment.

6.0 Audiometric Evaluation

- Each employee's annual audiogram will be compared to his baseline audiogram by qualified evaluator to determine if a Standard Threshold Shift (STS) has occurred.
- A Standard Threshold Shift is defined by OSHA as a change in hearing threshold relative to the baseline of an average of 10dB or more at 2000, 3000, and 4000 Hz either ear.
- In determining if a Standard Threshold Shift has occurred, an allowance can be made for the contribution of aging (presbycusis). The age correction values to be used are found in Appendix F of 1910.95.
- The audiologist, otolaryngologist, or physician shall review problem audiograms and shall determine whether there is a need for further evaluation. The employer shall provide to the person performing this evaluation the following information:
    1. A copy of the requirements for hearing conservation as set forth in the standard.
    2. The baseline audiogram and most recent audiogram of the employee to be evaluated.
    3. Measurements of background sound pressure levels in the audiometric test room as required in Appendix D: Audiometric Test Rooms.
    4. Records of audiometer calibrations.
    5. If the annual audiogram shows that an employee has suffered a standard threshold shift, the employee shall be retested within 30 days and the results of the retest will serve as the annual audiogram.

6. Unless a physician determines that the standard threshold shift is not work related or aggravated by occupational noise exposure, the employer shall ensure that the following steps are taken when a standard threshold shift occurs:
   - Employees not using hearing protectors will be trained, fitted, and required to use hearing protectors if they are exposed to an 8 hour TWA average sound level of 85 decibels or greater.
   - Employees already using hearing protectors shall be retrained, refitted, and required to use hearing protectors and provided with hearing protectors offering greater attenuation if necessary.
   - The supervisor will inform the employee, in writing, within 21 days of this determination, of the existence of a permanent Standard Threshold Shift. (See Form # 2 in Attachment)
   - The supervisor will counsel the employee on the importance of using hearing protectors and refer the employee for further clinical evaluation if necessary.

- Persistent significant threshold shifts must be entered on the OSHA 300 Log if determined to be work related.

7.0 Protection Equipment

- The supervisor shall ensure that hearing protectors are worn:

  1. By any employee who is subjected to sound levels equal to or exceeding an 8-hour TWA of 90 decibels.
  2. By any employee who has experienced a persistent Standard Threshold Shift and who is exposed to 8-hour TWA of 85 decibels or greater.
  3. By any employee who has not had a initial baseline audiogram and who is exposed to 8-hour TWA of 85 decibels or greater.

- The supervisor will provide training in the use and care of all hearing protectors.
- The supervisor will ensure proper initial fitting and supervise the correct use of all hearing protectors.
- Employees will be held accountable for not properly using and maintaining the equipment furnished.
- The Safety Coordinator will evaluate the attenuation characteristics of the hearing protectors to ensure that a given protector will reduce the individual's exposure to the required decibels. (See Form # 3 in Attachment)

  1. If the 8-hour TWA is over 90 decibels, then the protector must attenuate the exposure to at least an 8-hour TWA of 90 decibels or below.
  2. If the protector is being worn because the employee experienced a Standard Threshold Shift, then the protector must attenuate the exposure to a 8-hour TWA of 85 decibels or below.

3. If employee noise exposures increase to the extent that the hearing protectors provided may no longer provide adequate attenuation, the employee will be provided more effective hearing protectors.

- It is the responsibility of the supervisor to ensure that hearing protectors are worn by all employees who are exposed to noise levels at or above an eight hour TWA of 90 decibels or if the employee experienced a permanent STS or has not yet had a baseline audiogram.

8.0 Employee Training

An annual training program for each employee included in the hearing conservation program will be conducted by the supervisor and will include information on:

1. The effects of noise on hearing.

2. The purpose and use of hearing protectors.

3. The advantages, disadvantages, and attenuation of various types of protection.

4. Instruction in the selection, fitting, use and care of protectors.

5. The purpose of audiometric testing and an explanation of the test procedures.

Information provided in the training program shall be updated to be consistent with changes in protective equipment and work processes.

9.0 Recordkeeping

- Noise exposure surveys will be retained indefinitely.
- Audiometric test records will be retained for the duration of the affected workers employment plus 30 years.

10.0 Program Evaluation

At least annually, this program will be evaluated by Management using a Program Evaluation Checklist (See Form # 5 in Attachment). After the evaluation, the changes/revisions to the program deemed necessary will be made.

Form # 1

Noise Exposure Measurements

Facility:_____

Location	Process/Operation	Noise Exposure Levels in Decibels

Form # 2

Standard Threshold Shift (STS) Letter

Dear _____,

Your most recent audiometric test result was compared to your baseline audiogram. This comparison indicates that your hearing has deteriorated to the point where your hearing impairment constitutes a "standard threshold shift." This is defined by the Occupational Safety and Health Administration (OSHA) as a relative hearing loss of an average of 10 decibels in either ear at the frequencies of 2000, 3000 and 4,000Hz.

By taking the necessary action now, we can try to stop hearing loss from getting worse. Whenever you are in a work environment that would result in noise exposure that equals or exceeds an 8 hour Time Weighted Average (TWA) of 85 decibels, hearing protection **must** be used. Loss of hearing will affect you life. Preserve your hearing while you still have a chance.

Please let me know if you have questions.

Sincerely,

Supervisor

Form # 3

Hearing Protection Equipment Summary

Plant: _____

Type (muff/cap/plug)	Name (Brand and Model)	Noise Reduction Rating

Form # 4

Annual Hearing Conservation Program Evaluation

1. **Noise exposure level monitoring has been completed in all areas and rechecked as necessary after any alterations which may have resulted in a change in noise levels.**
   Yes ___ No ___

   If no, what action will be taken to complete the monitoring?

2. **Baseline audiograms (if required) have been completed on all employees hired this year.**
   Yes ___ No ___

   If no, what arrangements will be made to complete the audiograms?

3. **Annual audiograms (if required) have been completed on all employees who are included in the hearing conservation program.**
   Yes ___ No ___

   If no, what arrangements will be made to complete the audiograms?

4. **All employees included in the hearing conservation program have been provided with hearing protection.**
   Yes ___ No ___

   If no, what action will be taken to provide this protection?

5. **All employees who are required to wear hearing protection are wearing them correctly.**
   Yes____ No ____

   If no, what action(s) will be taken to enforce this requirement?

6. All employees included in the Hearing Conservation Program have received initial and annual training in the use of hearing protection, the effects of noise on hearing and the purpose of audiometric testing if applicable.
Yes____ No ____

If no, what will be done to complete this training?

7. Standard Threshold Shifts (STS) have been identified.
Yes____ No ____

If no, what action will be taken with these employees?

8. Employees with STS's have been notified in writing and fitted with the proper hearing protectors.

Yes____ No ____

If no, what action will be taken to notify these employees?

Review Completed by: _____ Date: _____

Table # 1

Permissible Noise Exposures
29 CFR 1910.95 Table G-16(a)

Duration (Hours)		Sound Level Slow Response
32.0		80
27.9		81
24.3		82
21.1		83
18.4		84
16.0		as
13.9		86
12.1		87
10.6		88
9.2		89
8.0		90
7.0		91
6.2		92
5.3		93
4.6		94
4.0		95
3.5		96
3.0		97
2.6		98
2.3		99
2.0		100
1.7		101
1.5		102
1.4		103
1.3		104
1.0		105
0.87		106
0.76		107
0.66		108
0.57		109
0.5		110
0.44		111
0.38		112
0.33		113
0.29		114
0.25		115
0.22		116
0.19		117
0.16		118
0.14		119
0.125		120
0.11		121
0.095		122
0.082		123
0.072		124
0.063		125
0.054		126
0.047		127
0.041		128
0.036		129
0.031		130

HEARING CONSERVATION PROGRAM EVALUATION CHECKLIST

Training and Education

Failures or deficiencies in hearing conservation programs (hearing loss prevention programs) can often be traced to inadequacies in the training and education of noise-exposed employees and those who conduct elements of the program.

	Yes	No
Has training been conducted at least once a year?		
Was the training provided by a qualified instructor?		
Was the success of each training program evaluated?		
Is the content revised periodically?		
Are managers and supervisors directly involved?		
Are posters, regulations, handouts, and employee newsletters used as supplements?		
Are personal counseling sessions conducted for employees having problems with hearing protection devices or showing hearing threshold shifts?		

Supervisor Involvement

Data indicate that employees who refuse to wear hearing protectors or who fail to show up for hearing tests frequently work for supervisors who are not totally committed to the hearing loss prevention programs.

	Yes	No
Have supervisors been provided with the knowledge required to supervise the use and care of hearing protectors by subordinates?		
Do supervisors wear hearing protectors in appropriate areas?		
Have supervisors been counseled when employees resist wearing protectors or fail to show up for hearing tests?		
Are disciplinary actions enforced when employees repeatedly refuse to wear hearing protectors?		

Noise Measurement

For noise measurements to be useful, they need to be related to noise exposure risks or the prioritization of noise control efforts, rather than merely filed away. In addition, the results need to be communicated to the appropriate personnel, especially when follow-up actions are required.

	Yes	No
Were the essential/critical noise studies performed?		
Was the purpose of each noise study clearly stated? Have noise-exposed employees been notified of their exposures and appraised of auditory risks?		
Are the results routinely transmitted to supervisors and other key individuals?		
Are results entered into health/medical records of noise exposed employees?		
Are results entered into shop folders?		
If noise maps exist, are they used by the proper staff?		
Are noise measurement results considered when contemplating procurement of new equipment? Modifying the facility? Relocating employees?		

Have there been changes in areas, equipment, or processes that have altered noise exposure? Have follow-up noise measurements been conducted?		
Are appropriate steps taken to include (or exclude) employees in the hearing loss prevention programs whose exposures have changed significantly?		

Engineering and Administrative Controls

Controlling noise by engineering and administrative methods is often the most effective means of reducing or eliminating the hazard. In some cases engineering controls will remove requirements for other components of the program, such as audiometric testing and the use of hearing protectors.

	Yes	No
Have noise control needs been prioritized?		
Has the cost-effectiveness of various options been addressed?		
Are employees and supervisors appraised of plans for noise control measures? Are they consulted on various approaches?		
Will in-house resources or outside consultants perform the work?		
Have employees and supervisors been counseled on the operation and maintenance of noise control devices?		
Are noise control projects monitored to ensure timely completion?		
Has the full potential for administrative controls been evaluated?		
Are noisy processes conducted during shifts with fewer employees?		
Do employees have sound-treated lunch or break areas?		

Monitoring Audiometry and Record Keeping

The skills of audiometric technicians, the status of the audiometer, and the quality of audiometric test records are crucial to hearing loss prevention program success. Useful information may be ascertained from the audiometric records as well as from those who actually administer the tests.

	Yes	No
Has the audiometric technician been adequately trained, certified, and recertified as necessary?		
Do on-the-job observations of the technicians indicate that they perform a thorough and valid audiometric test, instruct and consult the employee effectively, and keep appropriate records?		
Are records complete?		
Are follow-up actions documented?		
Are hearing threshold levels reasonably consistent from test to test? If not, are the reasons for inconsistencies investigated promptly?		
Are the annual test results compared to baseline to identify the presence of an OSHA standard threshold shift?		
Is the annual incidence of standard threshold shift greater than a few percent? If so, are problem areas pinpointed and remedial steps taken?		

Are audiometric trends (deteriorations) being identified, both in individuals and in groups of employees? (NIOSH recommends no more than 5% of workers showing 15 dB Significant Threshold Shift, same ear, same frequency.)		
Do records show that appropriate audiometer calibration procedures have been followed?		
Is there documentation showing that the background sound levels in the audiometer room were low enough to permit valid testing?		
Are the results of audiometric tests being communicated to supervisors and managers as well as to employees?		
Has corrective action been taken if the rate of no-shows for audiometric test appointments is more than about 5%?		
Are employees incurring STS notified in writing within at least 21 days? (NIOSH recommends immediate notification if retest shows 15 dB Significant Threshold Shift, same ear, same frequency.)		

Referrals

Referrals to outside sources for consultation or treatment are sometimes in order, but they can be an expensive element of the hearing loss prevention program, and should not be undertaken unnecessarily.

	Yes	No
Are referral procedures clearly specified?		
Have letters of agreement between the company and consulting physicians or audiologists been executed?		
Have mechanisms been established to ensure that employees needing evaluation or treatment actually receive the service (i.e., transportation, scheduling, reminders)?		
Are records properly transmitted to the physician or audiologist, and back to the company?		
If medical treatment is recommended, does the employee understand the condition requiring treatment, the recommendation, and methods of obtaining such treatment?		
Are employees being referred unnecessarily?		

Hearing Protection Devices

When noise control measures are infeasible, or until such time as they are installed, hearing protection devices are the only way to prevent hazardous levels of noise from damaging the inner ear. Making sure that these devices are worn effectively requires continuous attention on the part of supervisors and program implementors as well as noise-exposed employees.

	Yes	No
Have hearing protectors been made available to all employees whose daily average noise exposures are 85 dBA or above? (NIOSH recommends requiring HPD use if noises equal or exceed 85 dBA regardless of exposure time.)		
Are employees given the opportunity to select from a variety of appropriate protectors?		
Are employees fitted carefully with special attention to comfort?		
Are employees thoroughly trained, not only initially but at least once a year?		
Are the protectors checked regularly for wear or defects, and replaced immediately if necessary?		
If employees use disposable hearing protectors, are replacements readily available?		
Do employees understand the appropriate hygiene requirements?		
Have any employees developed ear infections or irritations associated with the use of hearing protectors?		
Are there any employees who are unable to wear these devices because of medical conditions?		
Have these conditions been treated promptly and successfully?		
Have alternative types of hearing protectors been considered when problems with current devices are experienced?		
Do employees who incur noise-induced hearing loss receive intensive counseling?		
Are those who fit and supervise the wearing of hearing protectors competent to deal with the many problems that can occur?		
Do workers complain that protectors interfere with their ability to do their jobs?		
Do they interfere with spoken instructions or warning signals?		
Are these complaints followed promptly with counseling, noise control, or other measures?		
Are employees encouraged to take their hearing protectors home if they engage in noisy non-occupational activities?		
Are new types of or potentially more effective protectors considered as they become available?		
Is the effectiveness of the hearing protector program evaluated regularly?		
Have at-the-ear protection levels been evaluated to ensure that either over or under protection has been adequately balanced according to the anticipated ambient noise levels?		
Is each hearing protector user required to demonstrate that he or she understands how to use and care for the protector?		
The results documented?		

Administrative

Keeping organized and current on administrative matters will help the program run smoothly.

	Yes	No
Have there been any changes in federal or state regulations?		
Have hearing loss prevention program's policies been modified to reflect these changes		
Are copies of company policies and guidelines regarding the hearing loss prevention program available in the offices that support the various program elements?		
Are those who implement the program elements aware of these policies?		
Do they comply?		
Are necessary materials and supplies being ordered with a minimum of delay?		
Are procurement officers overriding the hearing loss prevention program implementor's requests for specific hearing protectors or other hearing loss prevention equipment?		
If so, have corrective steps been taken?		
Is the performance of key personnel evaluated periodically?		
If such performance is found to be less than acceptable, are steps taken to correct the situation?		
Safety: Has the failure to hear warning shouts or alarms been tied to any accidents or injuries?		
If so, have remedial steps been taken?		

Training Log		
Date	**Topic**	**Trainee**

Highline Steel Systems

Blood-borne Pathogens Safety Program

1.0 Introduction

This regulation applies to any Highline Steel Systems employee who can "reasonably anticipate" that, as part of his required employment duties, will be exposed to human blood or other body fluids that contain human blood which may be contaminated with potentially infectious materials. The OSHA requirements for this program are outlined in 29 CFR §1910.1030

2.0 Scope

This standard covers employees who are, as part of their job requirement, designated as a first aid provider. If an employee who is not designated as a first aid provider chooses to render aid to a co-worker, that employee is performing a G*ood Samaritan act* and thus does not fall within the requirements of this standard.

Highline Steel Systems does not reasonably anticipate an exposure problem and has not designated any employee to provide first aid as a requirement of their job. Employees may choose to render first aid to co-workers because they have been trained to do so in first aid training provided by either the company or another party.

3.0 Program

For the employees who choose to render first aid to co-workers, Highline Steel Systems will provide as part of a standard first aid supply the following items: one-way breathers, latex gloves, mouth and eye protection, and other supplies as necessary for the needed protection.

An exposure incident occurs when potentially infected human blood comes into contact with an open wound, eyes, mouth, skin lesions or a mucous membrane of another person. In the event this should occur, the employee should thoroughly wash the affected area vigorously with soap and water and notify their supervisor as soon as possible. The supervisor will record all reported incidents on the "Incident Record Form" in Appendix A.

In the event that an exposure incident should occur while performing a Good Samaritan act of rendering first aid to a co-worker, Highline Steel Systems will provide the hepatitis-B vaccination at no charge to the exposed employee. The exposed employee must report the incident his supervisor as soon as possible so that if the vaccination is desired, it can be set up and be started within 10 days. If the exposed employee declines the vaccination, then the exposed employee will be required to sign a "Declination of Hepatitis-B Vaccination Form" in Appendix B.

Appendix A

Incident Record Form

INCIDENT RECORD FORM

Employee Name:	**Social Security #**:
Date of Incident:	**Date Incident Reported**:
Was Hepatitis-B vaccination offered? Yes No	**Did employee accept offer?** Yes No
If accepted, provide name of Doctor and injection dates	
Name of Doctor:	**Injection dates:** 1. 2. 3.
If declined, did employee sign a "Declination of Hepatitis-B Form"? Yes No	
Incident Facts	
What was the exposed employee doing at the time of the incident?	
In what manner was the employee exposed?	
If first aid was rendered to a co-worker by the exposed employee, was it voluntary? Yes No	
Measures taken to correct and minimize chances of recurrence.	
Employee Signature:	Date:
Supervisor Name (type or print):	
Supervisor Signature:	Date

Appendix B

Declination of Hepatitis-B Vaccination Form

DECLARATION OF HEPATITIS-B VACCINATION FORM

I understand that due to my exposure to blood or other potentially infectious material because of a Good Samaritan act, I may be at risk of acquiring hepatitis-B virus infection. I have been given the opportunity to be vaccinated with hepatitis-B vaccine, at no charge to myself. However, I decline the hepatitis-B vaccination at this time. I understand that by declining this vaccine, I continue to be at risk of acquiring hepatitis-B, a serious disease. If in the future I continue to have exposures to human blood or other potentially infectious materials and I want to be vaccinated with hepatitis-B vaccine, I can receive the vaccination series at no charge to me.

Employee Name:_____

Employee Social Security #:_____

Employee Signature:_____

Date:_____

Highline Steel Systems

Respiratory Protection Program

Introduction

It is the policy of Highline Steel Systems to protect its employees from hazardous atmosphere through a comprehensive program of evaluation, engineering, administrative and work practice controls, and personal protective equipment, including respirators. Hazard elimination and engineering and work practice controls shall be employed to control employee exposure to within allowable exposure limits as much as possible. Respirators and other personal protective equipment shall be provided to affected employees under this program. The company is committed to full compliance with applicable regulations pertaining to employee respiratory protection.

1.0 Objective

This document is Highline Steel Systems Respiratory Protection Program and 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 the company and its employees comply with Occupational Safety and Health Administration (OSHA) respiratory protection requirements found in 29 CFR §1910.134.

2.0 Scope

This program applies to all employees who need to wear a respirator to perform assigned duties. In addition, any employee who voluntarily wears a respirator when one is not required (i.e., in certain maintenance operations) is subject to the medical evaluation, cleaning, maintenance, and storage elements of this program, and will be provided with the necessary training. Employees who voluntarily wear filtering face pieces (dust masks) are not subject to the medical evaluation, cleaning, storage, and maintenance provisions of this program.

3.0 Responsibilities

3.1 Program Administrator

The Program Administrator is the Safety Coordinator. The Program Administrator is responsible for administering the respiratory protection program. Duties of the program administrator include:

3.1.1 Keeping up with knowledge about respiratory protection and maintaining an awareness of current regulatory requirements and good practices.

3.1.2 Identifying work areas, process or tasks that require workers to wear respirators.

3.1.3 Evaluating hazards.

3.1.4 Selecting respiratory protection options.

3.1.5 Monitoring respirator use to ensure that respirators are used in accordance with their specifications.

3.1.6 Arranging for and/or conducting training.

3.1.7 Ensuring proper storage and maintenance of respiratory protection equipment.

3.1.8 Conducting qualitative fit testing.

3.1.9 Administering the medical surveillance program.

3.1.10 Maintaining records required by the program.

3.1.11 Evaluating the program.

3.1.12 Updating written program, as needed.

3.2 Supervisors

Supervisors are responsible for ensuring that the respiratory protection program is implemented in their particular areas. In addition to being knowledgeable about the program requirements for their own protection, supervisors must also ensure that the program is understood and followed by the employees under their charge. Duties of the supervisor include:

3.2.1 Ensuring that employees under their supervision (including new hires) receive appropriate training, fit testing, and annual medical evaluation.

3.2.2 Ensuring the availability of appropriate respirators and accessories.

3.2.3 Being aware of tasks requiring the use of respiratory protection.

3.2.4 Enforcing the proper use of respiratory protection when necessary.

3.2.5 Ensuring that respirators are properly cleaned, maintained, and stored according to this program.

3.2.6 Ensuring that respirators fit well and do not cause discomfort.

3.2.7 Continually monitoring work areas and operations to identify respiratory hazards.

3.2.8 Coordinating with the Program Administrator on how to address respiratory hazards or other concerns regarding this program.

3.3 Employees

Each employee is responsible for wearing his or her respirator when and where required and in the manner in which they are trained. Employees must also:

3.3.1 Use the respiratory protection in accordance with the manufacturer's instructions and the training received.

3.3.2 Care for and maintain their respirators as instructed, guard them against damage, and store them in a clean, sanitary location.

3.3.3 Immediately report any defects in the respiratory protection equipment and whenever there is a respirator malfunction, immediately evacuate to a safe area and report malfunction.

3.3.4 Promptly report to the supervisor any symptoms of illness that may be related to respirator usage or exposure to hazardous atmospheres.

3.3.5 Report any health concerns related to respirator use or changes in health status to an occupational physician.

3.3.6 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.

4.0 Program

4.1 Hazard Assessment and Respirator Selection

The safety coordinator will select respirators to be used on the job, based on the hazards to which workers are exposed and in accordance with the OSHA Respiratory Protection Standard. A log of identified hazards will be maintained by the Program Administrator (See Attachment A). The hazard evaluations shall include:

4.1.1 Identification and development of a list of hazardous substances used in the workplace by work process.

4.1.2 Exposure monitoring to quantify potential hazardous exposures.

The proper type of respirator for the specific hazard involved will be selected in accordance with the manufacturer's instructions (See Attachment D for additional information on respirators)

4.2 Training

The safety coordinator will provide training to respirator users and their supervisors on the contents of the company's Respiratory Protection Program and their responsibilities under it, and on the OSHA Respiratory Protection Standard. All affected employees and their supervisors will be trained prior to using a respirator in the workplace. Supervisors will also be trained prior to supervising employees that must wear respirators.

The training course will cover the following topics:

4.2.1 HSS Construction Respiratory Protection Program;

4.2.2 The OSHA Respiratory Protection Standard (29 CFR 1910.134);

4.2.3 Respiratory hazards encountered at and their health affects;

4.2.4 Proper selection and use of respirators;

4.2.5 Limitations of respirators;

4.2.6 Respirator donning and user seal (fit) checks;

4.2.7 Fit testing;

4.2.8 Emergency use procedures;

4.2.9 Maintenance and storage; and

4.2.10 Medical signs and symptoms limiting the effective use of respirators.

Employees will be retrained annually or as needed. Employees must demonstrate their understanding of the topics covered in the training through hands-on exercises. The safety coordinator will document respirator training and the documentation will include the type, model, and size of respirator for which each employee has been trained and fit tested.

4.3 NIOSH Certification

All respirators must be certified by the National Institute for Occupational Safety and Health (NIOSH) and shall be used in accordance with the terms of that certification. Also, all filters, cartridges, and canisters must be labeled with the appropriate NIOSH approval label. The label must not be removed or defaced while the respirator is in use.

4.4 Voluntary Respirator Use

The safety coordinator will provide all employees who voluntarily choose to wear the above respirators with a copy of Appendix D of the OSHA Respiratory Protection Standard 1910.134. (Appendix D details the requirements for voluntary use of respirators

by employees.) Employees who choose to wear a half face piece APR must comply with the procedures for medical evaluation, respirator use, cleaning, and maintenance and storage portions of this program.

4.5 Medical Evaluation

Employees who are either required to wear respirators, or who choose to wear a half face piece voluntarily, must pass a medical exam before being permitted to wear a respirator on the job. Employees are not permitted to wear respirators until a physician has determined that they are medically able to do so. Any employee refusing the medical evaluation will not be allowed to work in an area requiring respirator use.

A licensed physician will provide the medical evaluations. Medical evaluation procedures are as follows:

4.5.1 The medical evaluation will be conducted using the questionnaire provided in Appendix C of the OSHA Respiratory Protection Standard 1910.134. The Program Administrator will provide a copy of this questionnaire to all employees requiring medical evaluations.

4.5.2 To the extent feasible, the company will provide assistance to employees who are unable to read the questionnaire. When this is not possible, the employee will be sent directly to the physician for medical evaluation.

4.5.3 All affected employees will be given a copy of the medical questionnaire to complete.

4.5.4 Follow-up medical exams will be granted to employees as required by the Standard, and/or as deemed necessary by the evaluating physician.

4.5.5 All employees will be granted the opportunity to speak with the physician about their medical evaluation, if they so request.

4.5.6 The Program Administrator shall provide the evaluating physician with a copy of this Program, a copy of the OSHA Respiratory Protection Standard, the list of hazardous substances by work area, and the following information about each employee requiring evaluation:

- his or her work area or job title;
- proposed respirator type and weight;
- length of time required to wear respirator;
- expected physical work load (light, moderate or heavy);
- potential temperature and humidity extremes; and
- any additional protective clothing required.

4.5.7 Positive pressure air purifying respirators will be provided to employees as required by medical necessity.

4.5.8 After an employee has received clearance to wear his or her respirator, additional medical evaluations will be provided under the following circumstances:

- The employee reports signs and/or symptoms related to their ability to use the respirator, such as shortness of breath, dizziness, chest pains or wheezing.
- The evaluating physician or supervisor informs the Program Administrator that the employee needs to be reevaluated.
- Information found during the implementation of this program, including observations made during the fit testing and program evaluation, indicates a need for reevaluation.
- A change occurs in workplace conditions that may result in an increased physiological burden on the employee.

All examinations and questionnaires are to remain confidential between the employee and the physician. The safety coordinator will only retain the physician's written recommendations regarding each employee's ability to wear a respirator.

4.6 Fit Testing

Employees who are required to or who voluntarily wear half-face piece air purifying respirators (APRs) will be fit tested:

- prior to being allowed to wear any respirator with a tight-fitting face piece;
- annually; or
- when there are changes in the employee's physical condition that could affect respiratory fit (e.g., obvious change in body weight, facial scarring, etc.)

Employees will be fit tested with the make, model, and size of respirator that they will actually wear. Fit testing of powered air purifying respirators will be conducted in the negative pressure mode.

The safety coordinator will conduct fit tests in accordance with Appendix A of the OSHA Respiratory Protection Standard 1910.134.

4.7 General Respirator Use Procedures

4.7.1 Employees will use their respirators under conditions specified in this program, and in accordance with the training they receive on the use of each particular model. In addition, the respirator shall not be used in a manner for which it is not certified by NIOSH or by its manufacturer.

4.7.2 All employees shall conduct user seal checks each time they wear their respirators. Employees shall use either the positive or negative pressure check (depending on which test works best for them) as specified in the OSHA Respiratory Protection Standard.

Positive Pressure Test: This test is performed by closing off the exhalation valve with your hand. Breathe air into the mask. The face fit is satisfactory if some pressure can be built up inside the mask without any air leaking out between the mask and the face of the wearer.

Negative Pressure Test: This test is performed by closing of the inlet openings of the cartridge with the palm of you hand. Some masks may require that the filter holder be removed to seal off the intake valve. Inhale gently so that a vacuum occurs within the face piece. Hold your breath for ten (10) seconds. If the vacuum remains, and no inward leakage is detected, the respirator is fit properly.

4.7.3 All employees shall be permitted to leave the work area to go to the locker room to maintain their respirator for the following reasons:

- to clean their respirator if it is impeding their ability to work;
- to change filters or cartridges;
- to replace parts; or
- to inspect respirator if it stops functioning as intended.

Employees should notify their supervisor before leaving the area.

4.7.4 Employees are not permitted to wear tight-fitting respirators if they have any condition, such as facial scars, facial hair, or missing dentures that would prevent a proper seal. Employees are not permitted to wear headphones, jewelry, or other items that may interfere with the seal between the face and the face piece.

4.7.5 Before and after each use of a respirator, an employee or immediate supervisor must make an inspection of tightness or connections and the condition of the face piece, headbands, valves, filter holders and filters. Questionable items must be addressed immediately by the supervisor.

4.8 Air Quality

For supplied-air respirators, only Grade D breathing air shall be used in the cylinders. The Program Administrator will coordinate deliveries of compressed air with the company's vendor and will require the vendor to certify that the air in the cylinders meets the specifications of Grade D breathing air.

The Program Administrator will maintain a minimum air supply of one fully charged replacement cylinder for each SAR unit. In addition, cylinders may be recharged as necessary from the breathing air cascade system located near the respirator storage area.

4.9 Change Schedules

Respirator cartridges shall be replaced as determined by the Program Administrator, supervisors, and manufacturers' recommendations.

4.10 Cleaning

Respirators are to be regularly cleaned and disinfected at the designated respirator cleaning station. Respirators issued for the exclusive use of an employee shall be cleaned as often as necessary. Atmosphere-supplying and emergency use respirators are to be cleaned and disinfected after each use.

The following procedure is to be used when cleaning and disinfecting reusable respirators:

- Disassemble respirator, removing any filters, canisters, or cartridges.

- Wash the face piece and all associated parts (except cartridges and elastic headbands) in an approved cleaner-disinfectant solution in warm water (about 120 degrees Fahrenheit). Do not use organic solvents. Use a hand brush to remove dirt.

- Rinse completely in clean, warm water.

- Disinfect all facial contact areas by spraying the respirator with an approved disinfectant.

- Air dry in a clean area.

- Reassemble the respirator and replace any defective parts. Insert new filters or cartridges and make sure the seal is tight.

- Place respirator in a clean, dry plastic bag or other airtight container.

The supervisor will ensure an adequate supply of appropriate cleaning and disinfection materials at the cleaning station. If supplies are low, employees should notify their supervisor.

4.11 Maintenance

Respirators are to be properly maintained at all times in order to ensure that they function properly and protect employees adequately. Maintenance involves a thorough visual inspection for cleanliness and defects. Worn or deteriorated parts will be replaced prior to

use. No components will be replaced or repairs made beyond those recommended by the manufacturer. Repairs to regulators or alarms of atmosphere-supplying respirators will be conducted by the manufacturer.

4.11.1 All respirators shall be inspected routinely before and after each use.

4.11.2 Respirators kept for emergency use shall be inspected after each use, and at least annually by the Program Administrator to assure that they are in satisfactory working order.

4.11.3 The Respirator Inspection Checklist (See Attachment E) will be used when inspecting respirators.

4.11.4 A record shall be kept of inspection dates and findings for respirators maintained for emergency use.

4.11.5 Employees are permitted to leave their work area to perform limited maintenance on their respirator in a designated area that is free of respiratory hazards. Situations when this is permitted include:

- washing face and respirator face piece to prevent any eye or skin irritation;
- replacing the filter, cartridge or canister;
- detection of vapor or gas breakthrough or leakage in the face piece; or
- detection of any other damage to the respirator or its components.

4.12 Storage

After inspection, cleaning, and necessary repairs, respirators shall be stored appropriately to protect against dust, sunlight, heat, extreme cold, excessive moisture, or damaging chemicals.

4.12.1 Respirators must be stored in a clean, dry area, and in accordance with the manufacturer's recommendations. Each employee will clean and inspect their own air-purifying respirator in accordance with the provisions of this program, and will store their respirator in a plastic bag in the designated area. Each employee will have his/her name on the bag and that bag will only be used to store that employee's respirator.

4.12.2 Respirators shall be packed or stored so that the face piece and exhalation valve will rest in a near normal position.

4.12.3 Respirators shall not be placed in places such as lockers or toolboxes unless they are in carrying cartons.

4.12.4 Respirators maintained at stations and work areas for emergency use shall be stored in compartments built specifically for that purpose, be quickly accessible at all times, and be clearly marked.

4.13 Respirator Malfunctions and Defects

4.13.1 For any malfunction of an ASR (atmosphere-supplying respirator), such as breakthrough, face piece leakage, or improperly working valve, the respirator wearer should inform his/her supervisor that the respirator no longer functions as intended, and go to the designated safe area to maintain the respirator. The supervisor must ensure that the employee either receives the needed parts to repair the respirator or is provided with a new respirator.

All workers wearing atmosphere-supplying respirators will work with a buddy. The Program Administrator shall develop and inform employees of the procedures to be used when a buddy is required to assist a coworker who experiences an ASR malfunction.

4.13.2 Respirators that are defective or have defective parts shall be taken out of service immediately. If, during an inspection, an employee discovers a defect in a respirator, he/she is to bring the defect to the attention of his/her supervisor. Supervisors will give all defective respirators to the Program Administrator. The Program Administrator will decide whether to:

- temporarily take the respirator out of service until it can be repaired;
- perform a simple fix on the spot, such as replacing a head strap; or
- dispose of the respirator due to an irreparable problem or defect.

When a respirator is taken out of service for an extended period of time, the respirator will be tagged out of service, and the employee will be given a replacement of a similar make, model, and size.

4.14 Emergency Procedures

In emergency situations where an atmosphere exists in which the wearer of the respirator could be overcome by a toxic or oxygen-deficient atmosphere, the following procedure should be followed.

4.14.1 When an emergency is announced, employees in the affected area must immediately don their emergency escape respirator, shut down their process equipment, and exit the work area.

4.14.2 All other employees must immediately evacuate the building. The Emergency Action Plan describes these procedures (including proper evacuation routes and rally points) in greater detail.

4.15 Program Evaluation

The Program Administrator will conduct periodic evaluations of the workplace to ensure that the provisions of this program are being implemented. The evaluations will include regular consultations with employees who use respirators and their supervisors, site inspections, air monitoring and a review of records. Items to be considered will include:

Comfort, ability to breathe without objectionable effort, adequate visibility under all conditions, provisions for wearing prescription glasses, ability to perform all tasks without undue interference, and confidence in the face piece fit.

Identified problems will be noted in an inspection log and addressed by the Program Administrator. These findings will be reported to Plant management, and the report will list plans to correct deficiencies in the respirator program and target dates for the implementation of those corrections.

4.16 Documentation and Recordkeeping

4.16.1 A written copy of this program and the OSHA Respiratory Protection Standard shall be kept in the Program Administrator's office and made available to all employees who wish to review it.

4.16.2 Copies of training and fit test records shall be maintained by the Program Administrator. These records will be updated as new employees are trained, as existing employees receive refresher training, and as new fit tests are conducted

4.16.3 For employees covered under the Respiratory Protection Program, the Program Administrator shall maintain copies of the physician's written recommendation regarding each employee's ability to wear a respirator. The completed medical questionnaires and evaluating physician's documented findings will remain confidential in the employee's medical records at the location of the evaluating physician's practice.

ATTACHMENT A

Hazard Assessment Log

Hazard Assessment Log Date: _____				
Department	Contaminants	Exposure Level (8 hr TWA*)	PEL	Controls

ATTACHMENT B

Respiratory Protection Hazard Assessment and Selection Form

Plant: _____

Worksite:_____

General Description of Job Task: _____
_____

Job Classification(s) _____

Level of physical exertion required to perform job: _____
_____

Respiratory hazard(s) present: _____

_____

_____

OSHA PEL:_____ ACGIH TLV (if applicable): _____

Is monitoring data available? _____Yes _____No
If yes, attach to this form.

Contaminant concentrations present in the workplace:

Contaminant(s): _____ Concentration:_____

Contaminant(s): _____ Concentration:_____

Contaminant(s): _____ Concentration:_____

Does data indicate levels that exceed applicable limits? _____Yes _____No

Do data indicate IDLH concentrations? _____Yes _____ No

Note: Wherever hazardous exposure(s) cannot be identified or reasonably quantified, the atmosphere must be considered IDLH.

Does data indicate oxygen deficiency (less than 19.5%)? _____Yes _____No

Is the respirator for routine use or emergency use? _____

Additional factors (i.e. temperature and humidity levels, etc.): _____

_____

_____

Communication requirements: _____

_____

Are engineering/ administrative controls feasible? _____Yes _____No

If no, describe reasons: _____

_____

Type of respirator selected: _____ air purifying _____ atmosphere supplying

Style of respirator selected: _____ tight-fitting _____ lose-fitting

Make:_____
Model#_____

Type of canister or cartridge to be used:_____

Cartridge/canister change schedule if applicable _____

_____

Name of Evaluator:_____Date:_____

Title: _____ Phone:_____

ATTACHMENT C

Respiratory Hazard Assessment and Certification Form

Job Description	MSDS Product/Trade Name	Contaminant	Concentration	ppm	mg/m^3	Recommended Respiratory Protection	Service Life

I have performed an evaluation of the work areas indicated above, assessed the hazards and selected the appropriate respiratory protection.

Signature	Name and Title (print)	Date

ATTACHMENT D

Respirator Inspection Checklist

Type of Respirator:	**Location:**
Respirator Issued to:	**Type of Hazard:**
Face piece	_____ Cracks, tears, or holes _____ Face mask distortion _____ Cracked or loose lenses/face shield
Head straps	_____ Breaks or tears _____ Broken buckles
Valves:	_____ Residue or dirt _____ Cracks or tears in valve material
Filters/Cartridges:	_____ Approval designation _____ Gaskets _____ Cracks or dents in housing _____ Proper cartridge for hazard
Air Supply Systems	_____ Breathing air quality/grade _____ Condition of supply hoses _____ Hose connections _____ Settings on regulators and valves
Rubber/Elastomer Parts	_____ Pliability _____ Deterioration

Inspected by:	Date:
Action Taken:	

Highline Steel Systems

Rail Roads

Highline Steel Systems employees are not expected to operate locomotives, rail road cars or other transportation equipment without proper training. Except when the job requires it, and training has been provided, HSS employees are prohibited from operating these type of equipment.

General rules that apply to HSS employees include:

HSS employees are prohibited from crawling under or climbing over the cars.

No employee is allowed to ride on cars that are being switched.

Employees must exit vehicles and remain out until they have been switched.

Employees must stay away from the vehicles until prescribed track protection has been replaced.

Pinch points and body parts must stay clear of each other at all times. Remember, rail equipment can move in either direction at any time causing harm to you and others.

Highline Steel Systems

Personal Protective Equipment Program

1.0 Introduction

The purpose of this program is to ensure that personal protective equipment (PPE) for eyes, face, head, and extremities are provided, used, and maintained in a sanitary and reliable condition when there are environmental, chemical, or mechanical hazards. This program is written to comply with the OSHA Personal Protective Equipment Standard 29 CFR §1910.132-138, Subpart I.

2.0 Scope

This PPE program applies to all plants and contractors. The PPE is designed to protect the employee from hazards that cannot practically be removed from the work environment. The PPE should be used only when the hazards cannot be eliminated through engineering and/or administrative practices. (See Appendix A for hazard control hierarchy)

3.0 Responsibilities

Supervisors

1) Where feasible, supervisors should work to develop engineering and/or administrative controls to eliminate or reduce the dependence on PPE.
2) Supervisors and the employee who performs the job shall evaluate anticipated work conditions, via a job safety analysis (JSA) in their respective areas to determine what, if any, PPE is required to protect the worker while performing his job duties.
3) Identification of hazards includes consideration of the following basic hazard categories:

- Impact
- Penetration
- Compression (pinch points)
- Chemical
- Heat
- Harmful dusts
- Radiant energy
- Infectious Agents/Blood

4) Once work place hazards have been identified and consideration given to the nature of the hazards and potential for exposure to multiple hazards, the supervisor shall make a decision concerning the type of PPE to be selected and purchase the PPE accordingly.
5) Jobs where exposure conditions have changed shall be re-evaluated by the supervisor and the employee performing the job to determine the PPE needs.
6) Train employees in the proper use of PPE.
7) Ensure that the employees comply with the provisions of this program.

Safety Coordinator

1) Responsible for insuring that all job categories at the job sites have been evaluated for PPE requirements.
2) Provide technical consultation and assistance with choosing the proper PPE for work tasks.
3) Manage the PPE program and provide assistance with the JSA.

Employees

1) Required to understand and properly wear the provided PPE when work assignment or operations present the risk of exposure to observed or potential hazards.
2) Responsible to inspect the provided PPE each day before the start of their shift. Employees shall notify their supervisor if, upon inspection, the provided PPE is found to be defective or damaged. Employees shall not perform any work duty that requires PPE until the defective or damaged PPE is replaced with properly working PPE.
3) Responsible for the safekeeping and maintenance of the personal protective equipment.
4) Inform their supervisor whenever a need arises to use PPE for which the employee has not received training, or when a condition exists, where adequate PPE is not available.

4.0 Equipment Selection

Eye and Face Protection

1) Where eye and face protection are required the selected protection shall be adequate to protect against machines or operations, which create the risk of eye or face injuries due to physical, chemical and/or radiation agents.
2) Hazards associated with the potential for flying objects shall utilize eye protection with side shields.
3) Detachable side shields are permissible, but must meet ANSI Z87.1-1989 (R1998).
4) Personnel who are required to wear safety eyewear and need prescription lenses to conduct their work shall be provided with protective eyewear that can be worn over the employee's prescription lenses.
5) Where radiant energy is a hazard, properly shaded lenses shall be selected for use. Such hazards may include but are not limited to: welding (gas or electric), ultraviolet light, and heat treat furnaces.
6) Eye and face equipment must comply with ANSI Z87.1-1989 (R1998).

Respiratory Protection

Refer to company Respiratory Protection Program.

Head Protection

1) Employees working in areas where there is the possible danger of head injury from the impact of falling or flying objects, striking against objects, electrical shock and/or burns, or any combination of these hazards will be protected by protective hard hats.
2) All head protection shall comply with the specifications contained in ANSI Z89.1-1997.

3) Hard hats may not be altered in a way that will reduce their efficiency. Typical prohibited alterations include: painting, drilling holes in the shell, application of metal jewelry, etc. Hats with these alterations or excessive scratches will be replaced.

Foot Protection

1) Employees who are exposed to hazards that may cause foot injuries due to falling or rolling objects, objects piercing the sole, extreme cold, wetness, slipping, electrical shock, or any other hazard identified by the JSA, shall be required to use safety footwear.
2) All protective footwear shall comply with ANSI Z41-1999.

Hand Protection

1) Hand protection must be selected, provided and worn when employees are exposed to hazards such as skin absorption of harmful substances, severe cuts or lacerations, severe abrasions, punctures, chemical burns, thermal burns, harmful temperature extremes, or any other hazard identified by the JSA.
2) Glove selection shall include consideration of the following factors:
- Whether or not the glove will be reused.
- The specific chemical or chemicals to which the glove will be exposed.
- Abrasion resistance.
- Glove fit and ergonomic issues.
- Heat resistance.
- Electrical shock resistance.

Hearing Protection

- Refer to the company Hearing Conservation Program.

5.0 Training

1) The supervisor shall provide training/retraining to each employee who is required to use PPE for his job function.
2) Each employee shall be trained to know and understand the following:
- When is PPE necessary?
- What PPE is necessary?
- How to don or put on the PPE.
- How to doff or remove the PPE.
- Limitations of the PPE.
- Proper care and maintenance of PPE.

3) Each employee required to wear PPE shall demonstrate his/her understanding of the training elements listed above, before being allowed to perform work requiring the use of PPE.
4) The supervisor shall provide training during the following situations:
- Upon an employee's initial assignment to a work area or activity that requires PPE.
- When changes in the workplace render previous PPE training obsolete.
- When there are changes to the selected types of PPE, which render previous training obsolete.

- When employees no longer demonstrate proficiency with their assigned PPE.

6.0 Recordkeeping

1) Records shall be maintained which indicate that training has been completed and the employee has demonstrated competency in the use of the PPE.

2) Training records shall include:
- Date of the training session
- The session's subject matter
- Name all attendees
- Name of persons conducting training

3) Training records shall be maintained for at least 3 years by the affected department.

Appendix C – Hazard Control Hierarchy

Information obtained from a job hazard analysis is useless unless hazard control measures recommended in the analysis are incorporated into the tasks. Supervisors should recognize that not all hazard controls are equal. Some are more effective than others at reducing risk.
The order of precedence and effectiveness of hazard control is the following:

1. Engineering Controls.

2. Administrative Controls.

3. Personal Protective Equipment.

Engineering Controls include the following:

• Elimination/minimization of the hazard—designing the facility, equipment, or process to remove the hazard, or substituting processes, equipment, materials, or other factors to lessen the hazard
• Enclosure of the hazard using enclosed cabs, enclosures for noisy equipment, or other means
• Isolation of the hazard with interlocks, machine guards, blast shields, welding curtains, or other means
• Removal or redirection of the hazard such as with local and exhaust ventilation.

Administrative Controls include the following:

• Written operating procedures, work permits, and safe work practices
• Exposure time limitations (used most commonly to control temperature extremes and ergonomic hazards)
• Monitoring the use of highly hazardous materials
• Alarms, signs, and warnings;
• Training.

Personal Protective Equipment

• When engineering controls are not feasible or do not totally eliminate the hazard
• While engineering controls are being developed
• When safe work practices do not provide sufficient additional protection
• During emergencies when engineering controls may not be feasible.

Use of one hazard control method over another higher in the control precedence may be appropriate for providing interim protection until the hazard is abated permanently. In reality, if the hazard cannot be eliminated entirely, the adopted control measures will likely be a combination of all three items instituted simultaneously.

Highline Steel Systems

Hand and Power Tools

Training Log		
Date	**Topic**	**Trainee**

HAZARD RECOGNITION

Tools are such a common part of our lives that it is difficult to remember that they may pose hazards. All tools are manufactured with safety in mind but, tragically, a serious accident often occurs before steps are taken to search out and avoid or eliminate tool-related hazards.

In the process of removing or avoiding the hazards, workers must learn to recognize the hazards associated with the different types of tools and the safety precautions necessary to prevent those hazards.

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:

- Using a screwdriver as a chisel may cause the tip of the screwdriver to break and fly, hitting the user or other employees.
- If a wooden handle on a tool such as a hammer or an axe is loose, splintered, or cracked, the head of the tool may fly off and strike the user or another worker.
- A wrench must not be used if its jaws are sprung, because it might slip.
- Impact tools such as chisels, wedges, or drift pins are unsafe if they have mushroomed heads. The heads might shatter on impact, sending sharp fragments flying.

The employer is responsible for the safe condition of tools and equipment used by employees but the Employees have the responsibility for properly using and maintaining tools.

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

Appropriate personal protective equipment, e.g., safety goggles, gloves, etc., should be worn due to hazards that may be encountered while using portable power tools and hand tools.

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

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 will provide for safety.

POWER TOOL PRECAUTIONS

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 powder-actuated.

Employees should be trained in the use of all tools - not just power tools. They should understand the potential hazards as well as the safety precautions to prevent those hazards from occurring.

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

- Never carry a tool by the cord or hose.
- Never yank the cord or the hose to disconnect it from the receptacle.
- Keep cords and hoses away from heat, oil, and sharp edges.
- Disconnect tools when not in use, before servicing, and when changing accessories such as blades, bits and cutters.

- All observers should be kept at a safe distance away from the work area.
- Secure work with clamps or a vise, freeing both hands to operate the tool.
- Avoid accidental starting. The worker should not hold a finger on the switch button while carrying a plugged-in tool.
- Tools should be maintained with care. They should be kept sharp and clean for the best performance. Follow instructions in the user's manual for lubricating and changing accessories.
- Be sure to keep good footing and maintain good balance.
- The proper apparel should be worn. Loose clothing, ties, or jewelry can become caught in moving parts.
- All portable electric tools that are damaged shall be removed from use and tagged "Do Not Use."

GUARDS

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

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

- point of operation,
- in-running nip points,
- rotating parts, and
- flying chips and sparks.

Safety guards must never be removed when a tool is being used. For example, portable circular saws must be equipped with guards. An upper guard must cover the entire blade of the saw. A

retractable lower guard must cover the teeth of the saw, except when it makes contact with the work material. The lower guard must automatically return to the covering position when the tool is withdrawn from the work.

SAFETY SWITCHES

The following hand-held powered tools must be equipped with a momentary contact "on-off" control switch: drills, tappers, fastener drivers, horizontal, vertical and angle grinders with wheels larger than 2 inches in diameter, disc and belt sanders, reciprocating saws, saber saws, and other similar tools. 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 2 inches or less in diameter; grinders with wheels 2 inches or less in diameter; routers, planers, laminate trimmers, nibblers, shears, scroll saws and jigsaws with blade shanks 1-inch wide or less.

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

ELECTRIC TOOLS

Employees using electric tools must be aware of several dangers; the most serious is the possibility of electrocution.

Among the chief hazards of electric-powered tools are burns and slight shocks which can lead to injuries or even heart failure. Under certain conditions, even a small amount of current can result in fibrillation of the heart and eventual death. A shock also can cause the user to fall off a ladder or other elevated work surface.

To protect the user from shock, tools must either have a three-wire cord with ground and be grounded, be double insulated, or be powered by a low-voltage isolation transformer. Three-wire cords contain two current-carrying conductors and a grounding conductor. One end of the grounding conductor connects to the tool's metal housing. The other end is grounded through a prong on the plug. Anytime an adapter is used to accommodate a two-hole receptacle, the adapter wire must be attached to a known ground. The third prong should never be removed from the plug.

Double insulation is more convenient. The user and the tools are protected in two ways: by normal insulation on the wires inside, and by a housing that cannot conduct electricity to the operator in the event of a malfunction.

These general practices should be followed when using electric tools:

- Electric tools should be operated within their design limitations.
- Gloves and safety footwear are recommended during use of electric tools.

- When not in use, tools should be stored in a dry place.
- Electric tools should not be used in damp or wet locations.
- Work areas should be well lighted.

POWERED ABRASIVE WHEEL TOOLS

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

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

To prevent the wheel from cracking, the user should be sure it fits freely on the spindle. The spindle nut must be tightened enough to hold the wheel in place, without distorting the flange. Follow the manufacturer's recommendations. Care must be taken to assure that the spindle wheel will not exceed the abrasive wheel specifications.

Due to the possibility of a wheel disintegrating (exploding) during start-up, the employee should 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.

In addition, when using a powered grinder:

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

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 kind of fastener the worker is using with the tool.

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

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

When using pneumatic tools, employees must check to see that they are fastened securely to the hose to prevent them from becoming disconnected. A short wire or positive locking device

attaching the air hose to the tool will serve as an added safeguard.

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

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

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

POWDER-ACTUATED TOOLS

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

Safety precautions to remember include the following:

- These tools should not be used in an explosive or flammable atmosphere.
- Before using the tool, the worker should inspect it to determine that it is clean, that all moving parts operate freely, and that the barrel is free from obstructions.
- The tool should never be pointed at anybody.
- The tool should not be loaded unless it is to be used immediately. A loaded tool should not be left unattended, especially where it would be available to unauthorized persons.
- Hands should 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 must not be able to operate until they are pressed against the work surface with a force of at least 5 pounds greater than the total weight of the tool.
- If a powder-actuated tool misfires, the employee should wait at least 30 seconds, then try firing it again.
- If it still will not fire, the user should wait another 30 seconds so that the faulty cartridge is less likely to explode, then carefully remove the load. The bad cartridge should be put in water.
- Suitable eye and face protection are essential when using a powder-actuated tool.
- The muzzle end of the tool must have a protective shield or guard centered perpendicularly on the barrel to confine any flying fragments or particles that might otherwise create a hazard when the tool is fired.
- The tool must be designed so that it will not fire unless it has this kind of safety device.
- All powder-actuated tools must be designed for varying powder charges so that the user can select a powder level necessary to do the work without excessive force.
- If the tool develops a defect during use it should be tagged and taken out of service Immediately until it is properly repaired.

FASTENERS

When using powder-actuated tools to apply fasteners, there are some precautions to consider. Fasteners must not be fired into material that would let them pass through to the other side. The fastener must not be driven into materials like brick or concrete any closer than 3 inches to an edge or corner. In steel, the fastener must not come any closer than one-half inch from a corner or edge. Fasteners must not be driven into very hard or brittle materials which might chip or splatter, or make the fastener ricochet.

An alignment guide must be used when shooting a fastener into an existing hole. A fastener must not be driven into a spalled area caused by an unsatisfactory fastening.

HYDRAULIC POWER TOOLS

The fluid used in hydraulic power tools must be an approved fire-resistant fluid and must 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 must not be exceeded.

JACKS

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

A jack should never be used to support a lifted load. Once the load has been lifted, it must immediately be blocked up.

Use wooden blocking under the base if necessary to make the jack level and secure. If the lift surface is metal, place a 1-inch-thick hardwood block or equivalent between it and the metal jack head to reduce the danger of slippage.

To set up a jack, make certain of the following:

- the base rests on a firm level surface,
- the jack is correctly centered,
- the jack head bears against a level surface, and
- the lift force is applied evenly.

Proper maintenance of jacks is essential for safety. All jacks must be inspected before each use And lubricated regularly. If a jack is subjected to an abnormal load or shock, it should be thoroughly examined to make sure it has not been damaged.

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

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 dusts, fumes, mists, vapors, or gases must be provided with the particular personal equipment necessary to protect them from the hazard.

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

- Keep all tools in good condition with regular maintenance.
- Use the right tool for the job.
- Examine each tool for damage before use.
- Operate according to the manufacturer's instructions.
- Provide and use the proper protective equipment.

Employees and employers have a responsibility to work together to establish safe working procedures. If a hazardous situation is encountered, it should be brought to the attention of the proper individual immediately.

Highline Steel Systems

Ladder and Scaffold Safety Program

1.0 Introduction

This program contains requirements for the safe and proper use of ladders and scaffolds. The types of ladders may include wooden, metal, reinforced plastic, and fiberglass. This program covers the minimum requirements for the care and use of ladders and scaffolds in order to ensure safety under normal conditions of use.

2.0 Definitions

Angle of inclination - The preferred pitch of portable non-self-supporting ladders.

Back leg (rear rail) - The support members of a self-supporting portable ladder back section. The back legs are joined by rungs, bars, rear braces or other bracing to form the back section.

Cage - 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. Also referred to as a cage or basket guard.

Cleats - Cleats are ladder crosspieces of a rectangular cross-section placed on edge on which a person may step in while ascending or descending.

Combination ladder - A portable ladder capable of being used either as a stepladder or as a single or extension ladder.

Double front ladder - A self-supporting ladder, non-adjustable in length, consisting of two (2) sections intended for climbing on both sides.

Duty rating - The combination of factors, including but not limited to, ladder type and design features which imply service capability.

Extension ladder - A non-self-supporting portable ladder adjustable in length. It consists of two (2) 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.

Fastenings - A device to attach a ladder to a structure, building or equipment.

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

Grab bars - Individual handholds placed adjacent to or as an extension above ladders for the purpose of providing access beyond the limits of the ladder.

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

Inside clear width - The distance between the inside flanges of the siderails of a ladder.

Ladder - A ladder is an appliance usually consisting of two (2) side rails joined at regular intervals by crosspieces called steps, rungs or cleats, on which a person may step while ascending or descending.

Ladder foot, shoe or skid-resistant bearing surface - That component of ladder support that is in contact with the lower supporting surface.

Ladder safety device - Any device, other than a cage or well, designed to eliminate or reduce the possibility of accidental falls, and which may incorporate such features as life belts, friction brakes and sliding attachments.

Marking - Any sign, label, stencil or plate of a primary hazard or informational character or both, affixed, painted, burned, stamped or embossed on the ladder surface.

Maximum extended length or maximum working length - The total length of the extension ladder when the middle or intermediate and top or fly sections are fully extended (maintaining the required overlap).

Nail - A steel nail, unless otherwise designated.

Permanent deformation - That deformation remaining in any part of a ladder after all loads have been removed.

Pitch - The included angle between the horizontal and the ladder, measured on the opposite side of the ladder from the climbing side.

Railings - Any one or a combination of those railings constructed in accordance with OSHA 29 CFR 1910.23. A standard railing is a vertical barrier erected along exposed edges of floor openings, wall openings, ramps, platforms and runways to prevent falls of persons.

Rail ladder - A fixed ladder consisting of side rails joined at regular intervals by rungs or cleats and fastened in full length or in sections to a building, structure or equipment.

Reinforced plastic ladder - A device whose side rails are constructed of reinforced plastics. The crosspieces, called steps, rungs or cleats, may be constructed of metal, reinforced plastics or other suitable materials. This term does not denote the absence of all metallic elements because even in ladders with side rails and crosspieces manufactured of reinforced plastics, the hardware and fasteners may be metallic.

Rungs - Rungs are ladder crosspieces of circular or oval cross-section on which a person may step while ascending or descending.

Side-step ladder - A ladder from which a person getting off at the top must step sideways from the ladder in order to reach the landing.

Stepladder - A stepladder is 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.

Single ladder - A single ladder is a non-self-supporting portable ladder, nonadjustable in length, consisting of but one (1) section. Its size is designated by the overall length of the side rail.

Special-purpose ladder - A portable ladder which represents either a modification or a combination of design or construction features in one of the general-purpose types of ladders previously defined, in order to adapt the ladder to special or specific uses.

Steps - Steps are the flat crosspieces of a ladder on which a person may step while ascending or descending.

Step stool (ladder type) - A self-supporting, foldable, portable ladder, nonadjustable in length, 32 inches or less in overall size, with flat steps and without a pail shelf, designed so that the ladder top cap as well as all steps can be climbed on. The side rails may continue above the top cap.

Through ladder - A ladder from which a person getting off at the top must step through the ladder in order to reach the landing.

Visual damage - Damage evident by visual inspection.

Visual inspection - Inspection by the eye without recourse to any optical devices except prescription eyeglasses.

Well - A permanent complete enclosure around a fixed ladder which is attached to the walls of the well. Proper clearances for a well will give the person who must climb the ladder the same protection as a cage.

Working load - The maximum applied load, including the weight of the user, materials and tools, which the ladder is to support for the intended use.

3.0 Care and Use of Ladders

To insure safety and serviceability, the following precautions on the care of ladders shall be observed:

1. 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 securely attached, and the movable parts shall operate freely without binding or undue play.

2. At the minimum, ladders shall be inspected quarterly.
3. Metal bearings of locks, wheels, pulleys, etc., shall be frequently lubricated.
4. Frayed or badly worn rope shall be replaced.
5. Safety feet and other auxiliary equipment shall be kept in good condition to ensure proper performance.
6. Ladders shall be inspected frequently, and those which have developed defects shall be withdrawn from service for repair or destruction and tagged or marked as "Dangerous, Do Not Use."
7. Rungs should be kept free of grease and oil.
8. If a ladder is involved in any of the following, immediate inspection is necessary: - If ladders tip over, inspect ladder for side rails dents or bends or excessively dented rungs. Check all rung-to-side-rail connections; check hardware connections and rivets for shear.
9. If ladders are exposed to oil and grease, equipment should be cleaned of oil, grease or slippery materials. This can easily be done with a solvent or steam cleaning.
10. Ladders having defects are to be marked (as indicated above) and taken out of service until repaired by either the maintenance department or the manufacturer.

A simple rule for setting up a ladder at the proper angle is to place the base a distance from the vertical wall equal to one-fourth (¼) the working length of the ladder. The following safety precautions shall be observed in connection with the use of ladders:

1. Portable 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 one-quarter (¼) of the working length of the ladder (the length along the ladder between the foot and the top support). The ladder 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.
2. Ladders designed for one (1) person shall not be used by more than one man at a time nor with ladder jacks and scaffold planks when use by more than one (1) man is anticipated. In such cases, specially designed ladders with larger dimensions of the parts should be used.
3. Portable ladders shall be so placed that the side rails have a secure footing. The top rest for portable ladders shall be reasonably rigid and shall have ample strength to support any applied load.
4. Ladders shall not be placed in front of doors opening toward the ladder unless the door is blocked open, locked, and/or guarded.
5. Ladders shall not be placed on boxes, barrels or other unstable bases to obtain additional height.
6. 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.
7. Short ladders shall not be spliced together to provide long sections.
8. Ladders made by fastening cleats across a single rail shall not be used.
9. Ladders shall not be used as guys, braces or skids, or for other than their intended purpose.

10. Tops of the ordinary types of stepladders shall not be used as steps.
11. Portable ladders with reinforced rails shall be used only with the metal reinforcement on the underside.
12. No ladder should be used to gain access to a roof unless the top of the ladder extends at least three (3) feet above the point of support, at eave, gutter or roofline.
13. The user should equip all portable ladders 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;
14. On two-section extension ladders the minimum overlap for the two (2) sections in use shall be as follows:

Size of ladder (feet)	Overlap (feet)
Up to and including 36	3
Over 36 up to and including 48	4
Over 48 up to and including 60	5

15. The bracing on the back legs of step ladders is designed solely for increasing stability and not for climbing.
16. Portable ladders are designed as a one-man working ladder based on a 200 pound load.
17. The ladder base section must be placed with a secure footing.
18. The top of the ladder must be placed with the two (2) rails supported unless equipped with a single support attachment.
19. When ascending or descending, the climber must face the ladder.
20. 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.
21. Ladders should not be used as a brace, skid, guy or gin pole, gangway or for uses other than for which they were intended, unless specifically recommended for use by the manufacturer.

4.0 Wooden Ladders

1. Wooden ladders shall not be painted so that the wood can be inspected for cracks, damage and/or deterioration. All wood parts shall be free from sharp edges and splinters, and sound and free from accepted visual inspection from shake, wane, compression failures, decay or other irregularities. Low density wood shall not be used.

2. Wood stepladders shall be no longer than 20 feet. Stepladders as hereinafter specified shall be of three (3) types:

   Type I, Industrial Stepladder: 3 to 20 feet for heavy duty work, such as utilities, contractors, and industrial use.

   Type II, Commercial Stepladder: 3 to 12 feet for medium duty work, such as painters, offices, and light industrial use.

   Type III, Household Stepladder: 3 to 6 feet for light duty work , such as light household use.

3. General requirements for wood stepladders are:

   a. 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.
   b. The minimum width between side rails at the top, inside to inside, shall be not less than 11½ inches. From top to bottom, the side rails shall spread at least one (1) inch for each foot of length of stepladder.
   c. A metal spreader or locking device of sufficient size and strength to securely hold the front and back sections in open positions shall be a component of each stepladder. 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 (i.e., the shelf-lock ladder).

1. Single ladders shall be no longer than 30 feet.
2. Two-section extension ladders shall be no longer than 60 feet. All ladders of this type shall consist of two (2) 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.

5.0 Portable Metal Ladders

1. The spacing of rungs or steps shall be on 12 inch centers.
2. Rungs and steps shall be corrugated, knurled, dimpled coated with skid-resistant material, or otherwise treated to minimize the possibility of slipping.
3. The minimum width between side rails of a straight ladder or any section of an extension ladder shall be 12 inches.
4. 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.
5. Based on the nominal length of the ladder, each section of a multisection ladder shall overlap the adjacent section by at least the number of feet stated in the following:

Normal length of ladder (feet)	Overlap (feet)
Up to and including 36	3
Over 36, up to and including 48	4
Over 48, up to 60	5

6. Extension ladders shall be equipped with positive stops which will ensure the overlap specified in the table above.

6.0 General Specifications for Step Ladders

The length of a stepladder is measured by the length of the front rail. To be classified as a standard length ladder, the measured length shall be within plus or minus one-half (½) inch of the specified length.

1. Stepladders shall not exceed 20 feet in length.
2. The bottoms of the four (4) rails are to be supplied with insulating non-slip material for the safety of the user.
3. A metal spreader or locking device of sufficient size and strength to securely hold the front and back sections in the open position shall be a component of each stepladder. The spreader shall have all sharp points or edges covered or removed to protect the user.

7.0 Fixed Ladders

1. The minimum design live load shall be a single concentrated load of 200 pounds.
2. 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.
3. 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.
4. The weight of the ladder and attached appurtenances together with the live load shall be considered in the design of rails and fastenings.
5. For fixed ladders consisting of wood side rails and wood rungs or cleats, used at a pitch in the range 75° to 90°, and intended for use by no more than one (1) person per section, single ladders of less than 30 feet are acceptable.
6. All rungs shall have a minimum diameter of three-fourths (¾) inch for metal ladders and a minimum diameter of 11/8 inches for wood ladders.
7. The distance between rungs, cleats and steps shall not exceed 12 inches, and shall be uniform throughout the length of the ladder.
8. The minimum clear length of rungs or cleats shall be 16 inches.

9. Rungs, cleats and steps shall be free of splinters, sharp edges, burrs or projections which may be a hazard.
10. The rungs of an individual-rung ladder shall be so designed that the foot cannot slide off the end.
11. Side rails which might be used as a climbing aid shall be of such cross-sections as to afford adequate gripping surface without sharp edges, splinters or burrs.
12. Fastenings shall be an integral part of fixed ladder design.
13. All splices made by whatever means shall meet design requirements as noted in OSHA 29 CFR 1910.27(a). All splices and connections shall have smooth transition with original members and with no sharp or extensive projections.
14. No welding shall be allowed on any metal ladders.
15. The preferred pitch of fixed ladders shall be considered to come in the range of 75°and 90° with the horizontal.
16. Fixed ladders shall be considered as substandard if they are installed within the substandard pitch range of 60° and 75° with the horizontal. Substandard fixed ladders are permitted only where it is found necessary to meet conditions of installation. This substandard pitch range shall be considered as a critical range to be avoided, if possible.
17. This section covers only fixed ladders within the pitch range of 60° and 90° with the horizontal:

    a. Ladders having a pitch in excess of 90° with the horizontal are prohibited.
    b. All ladders shall be maintained in a safe condition. All ladders shall be inspected regularly, with the intervals between inspections being determined by use and exposure.

8.0. Portable Reinforced Plastic Ladders

1. Plastic, reinforced plastic ladders are a newer type of ladders on the market that follow the same requirements as the wooden and metal ladders. Specific design and construction requirements are minimized on the safety program because of the wide variety of materials and design possibilities.
2. The ladder shall have sufficient strength and stiffness to meet the performance requirements of ANSI Standard A14.5-1992, and shall produce a ladder without structural defects and accident hazards such as sharp edges, burrs, and the like.

9.0 Safe Use of Ladders On Or Around Electrical Equipment

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

2. Metallic or metal type ladders shall NOT be used around electrical energy, components and sources.
3. Portable ladders shall have nonconductive siderails if they are used where the employee or the ladder could contact exposed energized parts.

10.0 Protection of Ladders From Deterioration

1. Metal ladders and appurtenances shall be painted or otherwise treated to resist corrosion and rusting when location demands. Ladders formed by individual metal rungs imbedded in concrete, which serve as access to pits and to other areas under floors, are frequently located in an atmosphere that causes corrosion and rusting. To increase rung life in such an atmosphere, individual metal rungs shall have a minimum diameter of one (1) inch or shall be painted or otherwise treated to resist corrosion and rusting.
2. Wood ladders, when used under conditions where decay may occur, shall be treated with a nonirritating preservative, and the details shall be such as to prevent or minimize the accumulation of water on wood parts.
3. When different types of materials are used in the construction of a ladder, the materials used shall be so treated as to have no deleterious effect one upon the other.

11.0 Clearance and the Climbing Side of Ladders

1. 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°, and 30 inches for a pitch of 90°, with minimum clearances for intermediate pitches varying between these two limits in proportion to the slope.
2. 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.
3. Clearance in Back of 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 seven (7) inches, except that when unavoidable obstructions are encountered.
4. Clearance in Back of Grab Bar: The distance from the centerline of the grab bar to the nearest permanent object in back of the grab bars shall be not less than four (4) inches. Grab bars shall not protrude on the climbing side beyond the rungs of the ladder which they serve.
5. Step-Across Distance: The step-across 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 2½ inches.
6. Hatch Cover: Counterweighted hatch covers shall open a minimum of 60° 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.

12.0 Special Requirements for Cages or Wells

1. Cages or wells (except on chimney ladders) shall be built as shown on the applicable drawings, covered in detail in OSHA 29 CFR 1910.27(d)(1).
2. Cages or wells conforming to the dimensions for OSHA 29 CFR 1910(d)(1)(ii) shall be provided on ladders of 20 feet to a maximum unbroken length of 30 feet.
3. Cages shall extend a minimum of 42 inches above the top of landing, unless other acceptable protection is provided.
4. Cages shall extend down the ladder to a point not less than seven (7) feet nor more than eight (8) feet above the base of the ladder, with bottom flared not less than four (4) inches, or portion of cage opposite ladder shall be carried to the base.
5. Cages shall not extend less than 27 inches nor more than 28 inches from the centerline of the rungs of the ladder. Cages 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° around the circumference of the cage; this will give a maximum spacing of approximately 9½ inches, center to center.
6. 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 well 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.

13.0 Special Requirements for Landing Platforms

1. When ladders are used to ascend to heights exceeding 20 feet (except on chimneys), landing platforms shall be provided for each 30 feet of height or fraction thereof, except that, where no cage, well or ladder safety device is provided, landing platforms shall be provided for each 20 feet of height or fraction thereof. Each ladder section shall be offset from adjacent sections. Where installation conditions (even for a short, unbroken length) require that adjacent sections be offset, landing platforms shall be provided at each offset.
2. Where a person has to step a distance greater than 12 inches from the centerline of the rung of a ladder to the nearest edge of structure or equipment, a landing platform shall be provided. The minimum step-across distance shall be 2 ½ inches.
3. All landing platforms shall be equipped with standard railings and toeboards, so arranged as to give safe access to the ladder. Platforms shall be not less than 24 inches in width and 30 inches in length.
4. One (1) rung of any section of ladder shall be located at the level of the landing laterally served by the ladder. Where access to the landing is through the ladder, the same rung spacing as used on the ladder shall be used from the landing platform to the first rung below the landing.

14.0 Ladder Extensions

1. The side rails of through or side-step ladder extensions shall extend 3½ feet above parapets and landings. For through ladder extensions, the rungs shall be omitted

from the extension and shall have not less than 18 inches or more than 24 inches clearance between rails.

2. For side-step or offset fixed ladder sections, at landings the side rails and rungs shall be carried to the next regular rung beyond or above the 3½ feet minimum.

15.0 Grab Bars

Grab bars shall be spaced by a continuation of the rung spacing when they are located in the horizontal position. Vertical grab bars shall have the same spacing as the ladder side rails. Grab bar diameters shall be the equivalent of the round-rung diameters.

16.0 Ladder Safety Devices

1. Ladder safety devices may be used on tower, water tank and chimney ladders over 20 feet in unbroken length in lieu of cage protection. No landing platform is required in these cases.

2. All ladder safety devices, such as those that incorporate life belts, friction brakes and sliding attachments, shall meet the design requirements of the ladders which they serve.

17.0 Ladder Safety Guidelines to Eliminate Injuries

1. Install handrails that are at least 3" from the wall or other objects and can withstand a force of 200 pounds at the top of the rail.
2. Install handrails on stairways of 4 or more steps, and stairrails when there is a fall hazard of 4 feet or more
3. The overall angle of the stairs should be between 30 and 50 degrees
4. Stairs should have uniform riser height and tread depth variation of less than ¼ ".
5. Fill temporary pan stairs to the top edge of each pan, and replace temporary treads and landings when worn below the top edge.
6. Stairway landings must be 30" deep and 22"wide at every 12" or less of vertical rise.
7. Where doors or gates open directly on a stairway, provide a platform that extends at least 20" beyond the swing of the gate.
8. Fix slippery conditions before using stairs.
9. Ensure stairway parts are free of projections that may cause injury or snag clothing.

18.0 Training Requirements

A competent person must train each employee in the following areas, as applicable: The nature of fall hazards in the work area, the correct procedures for erecting, maintaining, and disassembling the fall protection systems to be used, the proper

construction, use, placement, and care in handling of all stairways and ladders, the maximum intended load-carrying capacities of ladders

19.0 Scaffolds

This policy establishes health and safety requirements for the proper construction, inspection, maintenance, operation, and use of scaffolds used in the alteration, construction, demolition of building (interior and exterior) and structures for which the Company might have responsibilities.

1. Scaffolds must be capable of supporting four times the maximum intended load.
2. Scaffolds are never loaded in excess of the working load for which they are designed.
3. Any damaged or weakened scaffold is immediately taken out of service.
4. Unstable objects, such as boxes or bricks, are never used to support the scaffold or planks.
5. Employees access the scaffold by an access ladder or other safe means.
6. Scaffold planks extend over the end supports between 6 to 18 inches.
7. Poles, legs, and uprights are securely braced.
8. Materials being hoisted onto the scaffold have a tag line.
9. Overhead protection is provided when there are overhead hazards.
10. Work is suspended during high winds or slippery conditions.
11. Wire or fiber rope used for scaffold suspension is capable of supporting at least six times the intended load.
12. Scaffolds are bolted to permanent structures.

Application:

This policy (including fall protection) shall apply to every employee regardless of department that shall be constructing, maintaining, operating, or using scaffolds.
Outside Contractors shall have their own policy on Fall protection and Scaffolding which cannot be less stringent than the company policy. If they do not have a policy, they shall comply with the provisions of this policy.
Scaffolds shall be used when work cannot be done safely from the ground or from safe, solid construction.

Definitions

Bearer: A horizontal member of the scaffolding that is used to support the platform unit and that might be supported by runners.

Body Belt: A safety belt which is a strap or belt worn around the waist that provides the wearer with the ability to secure it to a lanyard, lifeline, or deceleration device called fall protection. **As of January 1, 1998, the use of body belts for fall arrest is prohibited.**

Body Harness: Straps which may be secured around the employee in a manner that will distribute the fall arrest forces over at least the thighs, pelvis, waist, chest, and shoulders with a means for attaching it to other components of a personal fall arrest system.

Controlled Access Zone (CAZ): An area in which certain work such as overhead bricklaying may take place without the use of guardrail systems, personal fall systems, or safety net systems, and access to the zone is controlled.

Coupler: A device that locks together parts of the tube and coupler scaffold.

Cross Braces: These are two diagonal scaffold members joined at their center to form an "X" and are used between frames and uprights, or both.

Dangerous Equipment: Machinery, electrical equipment, and other units which may be hazardous to employees who fall onto or into such equipment.

Deceleration Device: Mechanisms such as rope grab, ripstitch lanyard, specially woven lanyard, tearing or deforming lanyards,or automatic self-retracting lifelines/lanyards which serve to dissipate a substantial amount of energy during a fall arrest, or otherwise limit the energy imposed on an employee during a fall arrest.

Drop Line: A vertical line from a fixed anchorage which is independent of the work platform and its rigging and to which a lanyard is affixed. Drop lines are also called lifelines, safety lines, and other related terms.

Guardrail System: A rail system erected along the open sides and ends of platforms. The rail system consists of a top and midrail and their supports.

Horse Scaffold: A scaffold for light and medium duty that is composed of sawhorses supporting a platform.

Ladder Jack Scaffold: A light-duty scaffold consisting of a platform supported by brackets attached to a single or extension ladder.

Lanyard: A flexible line to secure the wearer if a body harness to a drop line/fixed anchor is used.

Leading Edge: The edge of a roof or formwork for a floor or other walking/working surface, such as a deck, which changes location as additional floors, roof decking, or formwork sections are placed, formed, or constructed. Leading edge also refers to an unprotected side or edge during periods when there is not active and continuous construction.

Lifeline: This is a flexible line for connection to an anchorage at both ends. The lifeline stretches horizontally and serves as a means of connection for other components of a personal fall system to the anchorage.

Low Slope Roof: A roof having a slope of less than or equal to 4 in 12.

Manually Propelled Mobile Scaffold: A scaffold which can be moved manually on casters.

Mechanical Equipment: Human or motor-propelled wheeled equipment used for roofing work. This does not include wheelbarrows or mopcarts.

Midrail: A rail placed halfway between the platform and the top rail of a guardrail system.

Outrigger Scaffold: A scaffold supported by outriggers or thrustouts projecting beyond the wall or face of a building or structure. The inboard ends of the outriggers or thrustouts are secured inside of the building or structure.

Overhand Bricklaying: A process of laying bricks or similar material such that the surface of the wall to be jointed is on the opposite side of the wall from the mason which requires the mason to lean over t he wall to complete the work.

Personal Fall Arrest System: A system used to arrest an employee in a fall from a working level. The system consists of anchorage, connectors, and a body harness and may include a lanyard, deceleration device, lifeline, or suitable combination of these.

Positioning Device System: Body harness system rigged to allow an employee to be supported on an elevated vertical surface, such as a wall, and work with both hands free while leaning.

Qualified Person: A person who by recognized degree, certificate, or professional standing, or who by extensive knowledge, training, and experience has the ability to solve or resolve problems relating to the scaffolding or related work.

Safety Screen: A barrier mounted between the top rail and the platform.

Safety Monitoring System: A competent person who can recognize and warn employees of fall hazards.

Scaffold Access: A separate, attachable, or built-in means of access to and from a scaffold work unit.

Safety Net: A net which shall meet the requirements of an approved testing agency for the intended use. It shall be installed as close as practical under the walkway or working surface but cannot be more than 30' below the work surface.

Self-Retracting Lifeline: A deceleration device containing a drum woundline which can be slowly extracted or retracted onto the drum under slight tension during normal employee movement and which will automatically lock the drum should the employee fall.

Steep Roof: A roof which has a slope greater than 4 in 12.

Tieback: An attachment from a structural member of a supporting device.

Toeboard: A barrier along the sides and ends of a platform unit to guard against the falling of materials, tools, or other loose objects.

Toprail: The upermost horizontal rail of a guardrail system.

Warning Line System: A barrier erected **on a roof** to warn employees that they are approaching an unprotected roof side or edge and which designates an area in which roofing work may take place without the use of a guardrail, body harness, or safety net system to protect employees in that area.

General Requirements

Scaffolds shall be furnished, erected, or used when persons are engaged in work that cannot be performed safely from the ground or from solid construction.

Load scaffolds shall be designed and erected to safely support the design load.

Footing for scaffolds shall be sound, rigid, and capable of carrying the maximum intended load. Barrels, boxes, brick, concrete block, and other unstable objects shall **not** be used to support scaffolds or planks. *Screw jack*s are the most common means of scaffold leveling on a sound, rigid surface. Not more than 12 inches of the screw jack shall extend below the bottom of the nut/top of caster.

Anchorage, guying, tying off, or bracing of scaffolds shall be affixed to substantial and structurally sound structures, or the equivalent, using anchor bolts or equivalent.

Guardrails (including toeboards and top rails) shall be installed on all open sides and ends of platforms more than 6 feet above the ground or floor or other platform. Exceptions to this include the following: 1. during erection or dismantling of the scaffolding, 2. if the walls of a room completely surround the scaffolding , 3. when the *ladder jack scaffold* is 10 or more feet above the ground or floor, then the drop lines and body harness shall be used, 4. not required when the building side of the working platform if the platform is less than 16" from the building , 5. if materials are piled higher than the toeboards and are in areas where persons are required to pass beneath the scaffold, the scaffolds shall be provided with a wire mesh or suitable alternative between the toeboard and the top rail extending along the entire opening, 6. If the wire mesh or alternative is used, the midrail can be eliminated.

Toprails shall be installed no less than 36 inches nor more than 45 inches above the working surface of the scaffold.
Toeboards shall be 1" X 4" lumber or equivalent. The toeboard shall extend a minimum of 3 ½" above the working surface of the scaffold. They are required with the guardrail systems on all open sides and ends of scaffolds at locations where persons are required to work or pass under the scaffold. **Cross bracing** can be used in place of a midrail when the crossing point of 2 braces is at least 20" but not more than 30"above the platform. It is acceptable as a guardrail provided the crossing point of 2 braces is between 31" and 48" above the working platform of the scaffold. The end points at each upright shall not be more than 54" apart.

1. **Maximum Intended Load** scaffolds shall be capable of supporting, without failure, their own weight and at least 4 times the maximum intended load.
2. **Scaffold Access** is an access ladder or equivalent which shall be provided (except during erecting or dismantling) by one of the following:
    1. **Portable ladder** - wood metal or fiberglass
    2. **Scaffold frame** with a maximum spacing between the climbing surfaces of the frame not to exceed 16.5" and the length of the climbing surface shall not be less than 10"
    3. **Hook-on attachment ladders** specifically designed for its intended purpose
    4. **Step or stair-type access** specifically designed for its intended purpose
    5. **Direct access** of adjacent structure or personnel hoist
3. **Ladders** should be positioned so that the scaffold cannot be tipped. Persons climbing or descending scaffold ladders shall have both hands free for climbing.
4. **Cross braces** shall **not** be used as a means of access or degrees. **Platforms** are working surfaces which shall be fully planked or decked. The planks shall be laid with their edges close together so that the platform will be tight with no spaces through which tools or fragments of material can fall.
5. **Spaces** cannot be more than 1" wide except around uprights.**Plank lapping** - the plank shall lap its end supports at least 12" but not more than 18". Where the ends of the planks form a flush floor, the butt joint shall be at the centerline of a pole and the butt ends shall rest on separate bearers. When 2 or more scaffolds are used on a building or structure, they shall not be bridged to one another but shall be maintained at even height with platforms butting. Intermediate beams shall be provided where necessary to prevent dislodgment of planks due to deflection and the ends shall be nailed or cleated to prevent dislodgment.
6. **Platform movement** - when moving platforms to the next level, the old platforms shall be left undisturbed until the new bearers have been set in place, ready to receive the platform planks.

- If the platform cannot be fully planked or decked with standard units, the platform shall be planked as fully as possible. However, the remaining open space between the platform and guardrail shall not exceed 9.5".

7. **Set-up** - the poles, legs, and uprights of the scaffold shall be plumb and be securely and rigidly braced to prevent swaying and displacement.
8. **Restrictions**

- Only certified erectors shall climb the scaffold framing while set-up is in progress.
- Once the fourth level of set-up has completed, connections to the building shall be made immediately.

9. **Wood** - all load carrying wood members of the scaffold, except the planks, shall be at minimum, **#1 southern pine grade, #1 Douglas fir,** or the equivalent.

- The wood used can be used and reused provided the use has not damaged the lumber. New or used lumber that has been damaged or has deteriorated due to insects, decay, or chemical attack shall **not** be used.

10. **Scaffold enclosures** - when partially or fully enclosed, precautions should be taken to assure the adequacy of the number, placement, and strength of ties attaching the scaffolding to the building because of the possibility of increased load conditions resulting from effects of weather and wind.
11. **Hazards Scaffolds** - shall **not** be set up or used in the vicinity of power or other electrical lines or electrical conductors until such are insulated, de-energized (lock-out/tag-out) or otherwise rendered safe against electrical contact.
12. **Surface Hazards** - all exposed surfaces shall be free of sharp edges, burrs, nails, or similar safety hazards.
13. **Vehicle Hazards** - where moving vehicles are present, the scaffold area shall be marked with warning such as, but not limited to, flags, roped-off areas, barricades, fences, or a combination thereof.
14. **Securing Scaffolds** - scaffolds shall be secured to a building or structure at intervals not exceeding 30' horizontally and 26' vertically

Workers

1. **Overhead Protection** - When persons are working on the scaffold and an overhead hazard exists, overhead protection shall be provided to the user and shall be positioned not more than 9' above the working platform of the scaffold.

- Snow and ice on the scaffold must be removed and the planking sanded before the scaffold is to be used.
- Tools, materials, and debris shall not be allowed to accumulate so as to create a hazard on scaffold platforms.

2. **Fall Protection** - is not required when employees are inspecting, investigating, or assessing workplace conditions prior to the start of work or after work is completed.

- **Floor openings**, including openings in the scaffold planking, 6' or more above the ground or floor shall be protected with a guardrail or safety net system. Personal Fall Arrest can be used as an alternative or in combination. For safety net requirements please see the definition section of this policy.

3. **Dangerous equipment** located below or in close proximity to a scaffolding system shall be protected or guardrails shall be installed at the opening.
4. **Building side scaffolds** - guardrails which are not required on the building side of a scaffold when the platform is less than 16" from the building itself.
5. **Controlled Access Zone (CAZ)** - In areas where fall protection is not feasible or in areas where scaffolds make the work more dangerous (i.e. bricklaying), when reaching less than or equal to 10" below the working surface, the CAZ line prevents non-overhand bricklayers from inadvertently entering the area immediately adjacent to the fall hazard. The CAZ designates the area where overhand bricklaying may be performed without the use of guardrails, safety nets, or personal fall arrest systems as fall protection.

- If the overhand bricklayers must reach more than 10" below the working scaffold surface, the bricklayer must be protected by a guardrail, safety net, or other type of fall protection system.

6. **Safety Nets** - if safety nets are selected as a means of fall protection, they shall be installed directly beneath the walk or working surfaces but shall **not** be greater than 30' below said walking or working area of the scaffold.

- Area requirements for safety nets are outlined in the definition section.
- The nets shall be installed so as to provide sufficient clearance beneath them to prevent contact with a surface or structure below if a fall occurs.

7. **Personal Fall Arrest Systems** - Anchorage devices, connectors, or body harnesses which may include a lanyard, deceleration device, lifeline, or suitable combination of these. The personal fall arrest system:

- shall be inspected prior to use
- shall not be attached to a guardrail system
- shall not be attached to hoisting equipment unless the system prevents the employee from walking off the work surface
- *Positioning Devices* - devices that shall prohibit an employee from free-falling more than 2 feet.
- *Worker Safety* - Each worker shall be protected by a safety harness attached to a lifeline. The lifeline shall be securely attached to substantial members of the

structure - not the scaffold - or to closely rigged lines which will safely suspend the worker in case of a fall.

Additional Requirements For Specific Types of Scaffolds

Tube and Coupler Scaffolds

1 shall be erected by a competent and experienced person
2 runners shall be erected along the length of the scaffold and shall be located on the inside and outside posts at even heights

3. posts must be accurately spaced and erected on a suitable base and maintained plumb
4. runners must be interlocked to form continuous lengths and must be coupled to each post
5. bottom runners shall be located as close to the base as possible
6. runners shall not be placed more than 6 ½' vertically on center
7. runners can be used as guardrails and vice-versa
8. *bearers* shall be installed transversely between posts and shall be securely coupled to the posts with the inboard coupler bearing on the running coupler
9. bearers shall not be placed more than 6 ½' vertically on center
10. *bracing* across the width of the scaffold shall be installed at the ends of the scaffold at least at every 4th level vertically and repeated every 3rd set of posts horizontally
11. the bracing shall extend diagonally from the outer posts or runner at this level upward to the inner post or runner at the next level and building ties shall be installed adjacent to bracing
12. *secured scaffold* - the running scaffold shall be secured to the wall or structure when the height exceeds 4 times the minimum scaffold base dimension - the 30' horizontal and 26' vertical rule shall apply

FABRICATED TUBULAR FRAME SCAFFOLDS

1. tubular frame scaffolds including components such as braces, brackets, trusses, screw legs, ladders, etc. shall be designed to support their own weight and at least 4 times the maximum intended load
2. frames or panels shall be properly braced by cross bracing or diagonal braces or both for securing vertical members together laterally and the cross braces shall be of sufficient length as to square and align vertical members - all brace connections shall be made secure
3. Panel or frame legs shall be set on adjustable bases or plain bases on mud sills or other foundations adequate to support the maximum intended load and the scaffold must be plumb and leveled
4. tubular frame scaffolds over 125' must be designed by a licensed professional engineer

MANUALLY PROPELLED MOBILE SCAFFOLDS

1. the height shall not exceed 4 times the minimum base dimension
2. scaffolds shall be braced by cross, horizontal, or diagonal braces, by restrained platforms, or by other equivalent means - the erected scaffold must be level, square, and plumb
3. the working platform must be fully decked
4. casters shall have rubber or similar resilient tires with wheels having a minimum diameter of 5"
5. all scaffold casters shall have a positive wheel lock or equivalent means to prevent movement and rotation while the scaffold is in place
6. the lock must be engaged whenever there is a person on the scaffold
7. caster stems must be secured in place to prevent them from falling out
8. persons are not permitted to ride on the scaffolds while they are being moved/relocated
9. all tools and materials must be secured before the scaffold is moved/relocated

OUTRIGGER SCAFFOLDS

1. shall extend not more than 6' beyond the face of the building
2. the inboard end of the outrigger beams (measured from fulcrum point to the extreme point of support) shall be not less than 1.5 times the outboard end in length
3. the sides shall be plumb
4. the outrigger scaffold shall be prevented from tipping using the necessary ties and bracing

5. outrigger scaffolds shall be designed by a professional registered engineer

LADDER TYPE SCAFFOLDS OR PLATFORMS

1. the weight of the workers, planks, platforms, and other support equipment cannot exceed the sum of the rated capacity of the ladders
2. the maximum height of a working platform for ladder scaffolds using ladder jacks shall not be more than 20' above the base of the ladder
3. the maximum height of the working surface, if not using the ladder jacks shall not be greater than 4 times the outside base width of the ladder unless guyed, tied off, or braced
4. the foundation on which the ladders sit must be free of debris, water, or other slippery surface
5. planks must be securely fastened to the supporting members to prevent tipping
6. ladder jack scaffolds shall be limited to only one person

HORSE SCAFFOLDS

1. cannot be more than 2 tiers or 10' in height
2. horses shall not be spaced more than 5' apart
3. weak and defective equipment must be removed from service

Training Log		
Date	**Topic**	**Trainee**

Highline Steel Systems

Electrical Safety Program

TABLE OF CONTENT

1.0 Introduction

This written program establishes the minimum standards to prevent hazardous electrical exposures to personnel and to ensure compliance with regulatory requirements applicable to electrical systems. The general OSHA requirements for working with or around electrical equipment and circuits can be found in 29 CFR §1910.331 through §1910.335. This program is not intended to provide complete or specific information on any given task, such as wiring or operating electrical machinery. Alertness and caution when working around electrical equipment cannot be over-emphasized.

2.0 Purpose

This written program, in conjunction with other written programs and work practices, has been established in order to:

- Ensure the safety of employees who may work on or near electrical equipment.
- Ensure that employees understand and comply with safety standards related to electrical work.
- Ensure that employees follow uniform practices during the progress of electrical work.
- Comply with OSHA standards according to the following six points:
    - Provide and demonstrate a safety program with defined responsibilities.
    - Determine the degree of arc flash hazard exposure by qualified personnel.
    - Affix warning labels on equipment.
    - Provide personal protective equipment (PPE) for workers.
    - Provide documented training to workers on Lockout/Tagout procedures and the hazards of arc flash.
    - Provide appropriate tools for safe work.

3.0 Electrical Hazards

Electrical related hazards include, but not limited, to electric shock and burns, arc-flash burns, arc-blast impacts, and falls. These hazards are detailed below.

- Electric shock and burns - An electric shock occurs when electric current passes through the body. This can happen when touching an energized part. If the electric current passes across the chest or head, death can result. At high voltages, severe burns can result.

- Arc-flash burns - An electric arc flash can occur if a conductive object gets too close to a high-amp current source or by equipment failure (for instance, while opening or closing disconnects). The arc can heat the air to temperatures as high as 35,000^{o} F, and vaporize metal in the equipment. The arc flash can cause severe skin burns by direct heat exposure and by igniting clothing.

- Arc-blast impacts - The heating of air and vaporization of metal creates a pressure wave that can damage hearing and cause memory loss (from concussion) and other injuries. Flying metal parts are also a hazard.

- Falls - Electric shocks and arc blasts can cause falls, especially from ladders or unguarded scaffolding.

To minimize or to eliminate electrical hazards, the following principles should be applied:

- De-energize the equipment before working on them whenever possible.

- Plan every job - The approach and step-by-step procedures to complete the work at hand must be discussed and agreed upon between all involved employees before beginning. Write down first-time procedures. Discuss hazards and procedures in a job briefing with supervisors and other workers before starting any job. It is the employer's responsibility to have or develop a checklist system for working on live circuits, if such a scenario arises.

- Identify the hazards - Conduct a job hazard analysis. Identify steps that could create electric shock or arc-flash hazards.

- Minimize the hazards- De-energize any equipment, and insulate, or isolate exposed live parts so contact cannot be made. If this is impossible, obtain and wear proper PPE and tools.

- Anticipate problems - If it can go wrong, it might. Make sure the proper PPE and tools are immediately available for the worst-case scenario.

- Obtain training - Make sure all employees involved are qualified electrical workers with appropriate training for the job.

- Observe limited approach boundaries to live parts for shock prevention as illustrated on the chart below:

(NOTE: All dimensions are distance from live part to employee)

	Limited approach boundary			
Nominal system voltage range, phase to phase	**Exposed movable conductor**	**Exposed fixed-circuit part**	**Restricted approach boundary (allowing for accidental movement)**	**Prohibited approach boundary**
0 to 50 volts	Not specified	Not specified	Not specified	Not specified
51 to 300 volts	10 ft. 0 in.	3 ft. 6 in.	Avoid contact	Avoid contact
301 to 750 volts	10 ft. 0 in.	3 ft. 6 in.	1 ft. 0 in.	0 ft. 1 in.
751 to 15 KV KV	10 ft. 0 in.	5 ft. 0 in.	2 ft. 2 in.	0 ft. 7 in.
15.1 kV to 36 KV	10 ft. 0 in.	6 ft. 0 in	2 ft. 7 in.	0 ft. 10 in.
36.1 KV to 46 kV	10 ft. 0 in.	8 ft. 0 in	2 ft 9 in.	1 ft. 5 in.
46.1 KV to 72.5 KV	10 ft. 0 in.	8 ft. 0 in.	3 ft 2 in.	2 ft. 1 in.
72.6 KV to 121 KV	10 ft. 8 in.	8 ft. 0 in.	3 ft. 3 in.	2 ft. 8 in.
138 to 145	11 ft 0 in	10 ft. 0 in.	3 ft. 7 in	3 ft. 1 in.
161 KV to 169 KV	11 ft 8 in.	11 ft. 8 in.	4 ft. 0 in.	3 ft. 6 in.
230 KV to 242 KV	13 ft. 0 in.	13 ft. 0 in.	5 ft. 3 in.	4 ft. 9 in.
345 KV to 262 KV	15 ft. 4 in	15 ft. 4 in.	8ft. 6 in.	8 ft. 0 in.

Source: From a portion of table 2-1.3.4, Approach Boundaries to Live Parts for Shock Protection (NFPA 70E *Standard for Electrical Safety Requirements for Employee Workplaces, 2004 edition*).

4.0 Responsibilities

Company Management

- Ensure that this program is implemented at the company level.

- Provide the resources that are needed for the program.

Company Safety Coordinator
- Periodically review and update this written program.
- Provide or coordinate general training for work units on the content of this program.
- Evaluate the overall effectiveness of the electrical safety program on a periodic basis.
- Assist work units in the implementation of this program.

Corporate Electrical Engineer
- Complete arc flash analyses required by this program as needed and during equipment replacement or upgrading.
- Place an emphasis on controlling electrical hazards through the application of engineering and design controls.
- Promote consistency in how electrical tasks are completed within the various facilities.

Supervisors
- Promote electrical safety awareness to all employees.
- Ensure employees comply with ALL provisions of the electrical safety program.
- Ensure employees receive training appropriate to their assigned electrical tasks and maintain documentation of such training.
- Develop and maintain a listing of all qualified employees under their supervision.
- Ensure employees are provided with and use appropriate PPE.

Employees
- Follow the work practices described in this document, including the use of appropriate PPE and tools.
- Attend all training required by this program.
- Immediately report any concerns related to electrical safety to supervisor.

5.0 Training

Employees shall be trained in and be familiar with the safety-related work practices that pertain to their respective job assignments. The training requirement covers qualified and non-qualified employees. Additional requirements for an unqualified person is that they shall also be trained in and be familiar with any electrically related safety practices not specifically addressed (29 CFR 1910.331 through 1910.335) but which are necessary for their safety.

Additional requirements for qualified persons (i.e., those permitted to work on or near exposed energized parts) shall, at a minimum, be trained in and familiar with the following:

- The skills and techniques necessary to distinguish exposed live parts from other parts of electric equipment,
- The skills and techniques necessary to determine the nominal voltage of exposed live parts
- The clearance distances specified in §1910.333(c) and the corresponding voltages to which the qualified person will be exposed.

The training required shall be of the classroom or on-the-job type. The degree of training provided shall be determined by the risk to the employee.

6.0 Portable Equipment and Extension Cords

The following requirements apply to the use of cord-and-plug-connected equipment and flexible cord sets (extension cords):

- Extension cords may only be used to provide temporary power.
- Portable cord-and-plug connected equipment and extension cords must be visually inspected before use on any shift for external defects such as loose parts, deformed and missing pins, or damage to outer jacket or insulation, and for possible internal damage such as pinched or crushed outer jacket. Any defective cord or cord-and-plug-connected equipment must be removed from service and no person may use it until it is repaired and tested to ensure it is safe for use.
- Extension cords must be of the three-wire type. Extension cords and flexible cords must be designed for hard or extra hard usage (for example, types S, ST, and SO). The rating or approval must be visible.
- Job-made extension cords are forbidden per the electrical code.
- Personnel performing work on renovation or construction sites using extension cords or where work is performed in damp or wet locations must be provided, and must use, a ground-fault circuit interrupter (GFCI).
- Portable equipment must be handled in a manner that will not cause damage. Flexible electric cords connected to equipment may not be used for raising or lowering the equipment.
- Extension cords must be protected from damage. Sharp corners and projects must be avoided. Flexible cords may not be run through windows or doors unless protected from damage, and then only on a temporary basis. Flexible cords may not be run above ceilings or inside or through walls, ceilings or floors, and may not be fastened with staples or otherwise hung in such a fashion as to damage the outer jacket or insulation.
- Cords must be covered by a cord protector or tape when they extend into a walkway or other path of travel to avoid creating a trip hazard.
- Extension cords used with grounding-type equipment must contain an equipment-grounding conductor (i.e., the cord must accept a three-prong, or grounded, plug).

- Attachment plugs and receptacles may not be connected or altered in any way that would interrupt the continuity of the equipment grounding conductor. Additionally, these devices may not be altered to allow the grounding pole to be inserted into

- current connector slots. Clipping the grounding prong from an electrical plug is prohibited.

- Flexible cords may only be plugged into grounded receptacles. The continuity of the ground in a two-prong outlet must be verified before use. It is recommended that the receptacle be replaced with a three-prong outlet. Adapters that interrupt the continuity of the equipment grounding connection may not be used.

- All portable electric equipment and flexible cords used in highly conductive work locations, such as those with water or other conductive liquids, or in places where employees are likely to contact water or conductive liquids, must be approved for those locations.

- Employee's hands must be dry when plugging and unplugging flexible cords and cord-and-plug connected equipment if energized equipment is involved.

- If the connection could provide a conducting path to employees hands (for example, if a cord connector is wet from being immersed in water), the energized plug and receptacle connections must be handled only with insulating protective equipment.

- Locking-type connectors must be properly locked into the connector.

- Lamps for general illumination must be protected from breakage, and metal shell sockets must be grounded.

- Temporary lights must not be suspended by their cords unless they have been designed for this purpose.

- Portable lighting used in wet or conductive locations, such as tanks or boilers, must be operated at no more than 12 volts or must be protected by GFCI's.

- Ensure that the extension cord is of sufficient wire gauge to provide the current required by the load. Use the following guide unless a particular extension cord has a known maximum current rating.

Wire Gauge (AWG)	18	16	14	12	10	8
Max Current (amps)	8	12	15	20	30	40

7.0 Guards and Enclosures

Enclosing electrical equipment is another form of protection. Live electrical parts and equipment (control panels, circuit breakers, switch boxes, etc.) are enclosed in some way. If they're 50 volts or more, they have to be kept in separate rooms or enclosures, or behind partitions, or at least 8 feet above the ground.

Electrical boxes which are available as outlet boxes, switch boxes, junction boxes, etc. shall always have all exposed electrical parts fully insulated. Any electrical parts that are exposed, or covers that are broken or removed, shall be reported and repaired. It does not matter if it is carrying a current or if not, it should be eliminated. Exposed wires could be hot and only qualified people may determine this. The guidelines below should be followed:

- Do not enter spaces containing exposed energized parts, unless illumination is provided so that work can be performed safely.
- Do not reach blindly into areas which may contain energized parts.
- Areas or enclosures where high voltage apparatus is located shall have adequate markings.
- If pigtails are used on an explosion proof receptacle to allow the use of powered tools (e.g., flood lights), a Hot Work Permit will be required.
- Keep explosion-proof enclosures sealed. Keep screw-on covers tightened (at least 7 threads engaged).
- Explosion proof boxes and fittings shall be maintained properly in order to contain explosions or fires, which may occur internally and also preventing an ignition surrounding the enclosure.
- All bolts shall be in place and tightened to their recommended tightness. In order for an enclosure to retain its integrity, poured seals are installed in the conduit and must be properly maintained with the covers in place.

8.0 Lockout/Tagout

Safe procedures for de-energizing circuits and equipment shall be determined before circuits or equipment is de-energized. Always stand to one side when manually tripping a circuit breaker, in case the breaker fails catastrophically. The circuits or equipment to be worked on shall be disconnected from all electrical energy sources. Control circuit devices, such as push buttons, selector switches, and interlocks may not be used as the sole means for de-energizing circuits or equipment. Interlocks for electrical equipment may not be used as a substitute for lockout procedures.

Stored electric energy that might endanger personnel shall be released. In particular, capacitors (condensers) will store energy for a very long time with no voltage applied. Inductors (coils) also store energy, but it collapses almost immediately when the circuit is de-energized. Uninterruptible Power Supplies (UPS) have batteries which store energy, and a UPS usually converts the battery voltage to 110 volts AC. Therefore, special care must be taken when a UPS is involved to ensure that work can be done safely.

A lock and tag shall be placed on each disconnecting means used to de-energized circuits and equipment on which work is to be performed. Follow all the provisions for shutdown, de-energizing, verification of de-energized condition, and re-energizing equipment as set out in Company's Lockout/Tagout Program.

9.0 Personal Protective Equipment

Below are the general guidelines for PPE when working around equipment or electrical circuits.

- Employees working in areas where there are potential electrical hazards must be provided with and use PPE that is appropriate for the specific work to be performed. The electrical tools and protective equipment must be specifically approved, rated, and tested for the levels of voltage of which an employee may be exposed.
- Each facility shall provide electrical protective equipment (Arc Flash Gear) required by the Plant's Arc Flash Study. Such equipment shall include eye protection, head protection, hand protection, insulated footwear, and face shields where necessary.
- Employees shall wear rubber insulating gloves where there is a danger of hand or arm contact with live parts or possible exposure to arc flash burn.
- Where insulated footwear is used as protection against step and touch potential, dielectric overshoes shall be required. Insulated soles shall not be used as primary electrical protection.
- Face shields without arc rating shall not be used for electrical work. Safety glasses or goggles must always be worn underneath face shields.
- Additional illumination may be needed when using tinted face shields as protection during electrical work.
- Electrical Protective Equipment must be selected to meet the criteria established by the American Society of Testing and Materials (ASTM) and by the America National Standards Institute (ANSI).
- Insulating equipment made of materials other than rubber shall provide electrical and mechanical protection at least equal to that of rubber equipment.

- PPE must be maintained in a safe, reliable condition and be inspected for damage before each day's use and immediately following any incident that can reasonably be suspected of having caused damage.

- Employees must use insulated tools and handling equipment that are rated for the voltages to be encountered when working near exposed energized conductors or circuit. Tools and handling equipment should be replaced if the insulating capability is decreased due to damage. Protective gloves must be used when employees are working with exposed electrical parts above fifty (50) volts.

- Fuse handling equipment (insulated for circuit voltage) must be used to remove or install fuses when the fuse terminals are energized. Ropes and hand lines used near exposed energized parts must be non-conductive.

- Protective shields, barriers or insulating materials must be used to protect each employee from shock, burns, or other electrical injuries while that person is working near exposed energized parts that might be accidentally contacted or where dangerous electric heating or arcing might occur.

10.0 Emergencies

The guidelines below should be followed for each type of emergency related to electrical hazards.

Electrical Shock
- DO NOT touch the victim.
- Turn off the power immediately if possible and call for medical help.
- Use a stick or other non-conducting aid to move the victim away from the shock source.
- If not breathing, give artificial respiration.
- If the heart has stopped, give CPR.
- Try not to move the injured employee.
- Keep injured employee lying down and covered lightly.

Electrical Fire
- If possible to do it safety, unplug or turn off the current.
- If the fire is small, put it out it a CO_2 or a multi-purpose ABC extinguisher.
- Notify the Fire Department.
- Don’t use water or touch the burning object.

Electrical Burns
- For a minor burn, rinse with cool water and cover with a clean dry cloth.
- For a major burn, cover with a clean dry cloth and get immediate medical attention.
- DO NOT remove burned clothing. Doing so may damage burned skin tissue.

Appendix A

Examples of Warning Labels

The following example label shall be affixed to industrial control panels (every enclosure that may contain exposed energized conductors or components) where an arc-flash hazard analysis **has not** been completed.

The following label is an example of a label to be affixed to industrial control panels after arc flash hazard analysis has been completed.

DANGER

Arc Flash & Shock Hazard
Appropriate PPE Required

FLASH PROTECTION

Flash Hazard Category -1

Min. Arc Rating (cal/cm²) _____

Flash Protection Boundary _____

PPE: ○ T-shirt and long pants (natural fibers)
○ Safety glasses

SHOCK PROTECTION

_____ VAC Shock Hazard When:

_____

Limited Approach Boundary _____

Restricted Approach Boundary _____

Prohibited Approach Boundary _____

PPE: ○ Class _____
○ V-rating _____
○ _____

Equipment ID:

BRADY CATALOG NO. 99465

Appendix B

Example of Training Checklist

ELECTRICAL SAFETY TRAINING CHECKLIST

ELECTRICAL SAFETY TRAINING CHECKLIST			
TRAINING ITEM	**YES ☑**	**N/A ☑**	**COMMENTS**
SCOPE AND TRAINING			
1. All employees who work on, near or with premises wiring, wiring for connections to supply, other wiring, and installation of optical fiber cable along with electrical conductors have been trained as either qualified or unqualified workers.	❑	❑	
2. Unqualified person have been trained in and are familiar with any electrically related safety practices not covered by this standard but necessary for their safety.	❑	❑	
3. Qualified persons trained in and familiar with:			
a) Skills and techniques necessary to distinguish exposed live parts from other parts of electric equipment.	❑	❑	
b) Voltage determination.	❑	❑	
c) Clearance distances that must be maintained.	❑	❑	
d) Training conducted has been specific to the hazards to which the employee may or will be exposed and their particular job duties.	❑	❑	
SELECTION AND USE OF WORK PRACTICES			
1. Work practices used to prevent electric shock and other injuries address de-energized parts which may be energized.	❑	❑	
2. Work practices used to prevent electric shock and other injuries address exposure to energized parts.	❑	❑	
3. Procedure provided for work on or near exposed de-energized parts includes:			
a) Written procedures specific to the equipment or worksite.	❑	❑	
b) De-energizing equipment.	❑	❑	
c) Application of locks and tags.	❑	❑	
4. Working on or near exposed energized parts:			
a) All employees near enough to be exposed to a hazard have been trained, and are aware of the practices that must be followed to protect them from the hazard.	❑	❑	
b) Only qualified employees work on energized parts.	❑	❑	
c) Overhead lines de-energized and grounded prior to working near them **or** other protective measures used.	❑	❑	
d) Unqualified persons working near overhead lines are aware that they may not come approach, or use conductive objects closer than, 10 feet for lines up to 50 kV, or 10 feet plus 4 inches for every 10 kV over 50 kV.	❑	❑	
e) Qualified persons have a working knowledge of the allowable approach distances of this program.	❑	❑	
f) Vehicle and mechanical equipment operators understand that they must maintain:			
i) A clear distance of 10 feet plus 4 inches for every 10 kV over 50 kV while working near energized overhead lines.	❑	❑	

	ii)	A clear distance of 4 feet plus 4 inches for every 10 kV over 50 kV while in transit.	❑	❑	

TRAINING ITEM			YES ☑	N/A ☑	COMMENTS
	iii)	Insulating barriers are used and installed as required.	❑	❑	
	iv)	Insulated aerial lift operated by a qualified person must comply with the separation distances.	❑	❑	
	v)	Employees standing on the ground understand they may not contact the vehicle unless using protective equipment rated for the voltage or the equipment located so no un-insulated part can provide a conductive path to persons on the ground.	❑	❑	
g)		Illumination is provided at all worksites to assure safe work.	❑	❑	
h)		Protective shields and barriers provided and used for work in confined spaces to prevent contact with exposed energized parts.	❑	❑	
i)		All conductive materials such as pipes, rods, etc. are handled so as to prevent contact with exposed energized parts.	❑	❑	
j)		Conductive articles of clothing and jewelry such as watches, rings, etc. are not worn if they might contact exposed energized parts unless rendered nonconductive.	❑	❑	
k)		Portable ladders with nonconductive siderails are used when working near or on exposed energized conductors.	❑	❑	
l)		Housekeeping conducted only when exposed energized parts may not be contacted. Barriers provided and nonconductive cleaning materials used.	❑	❑	
m)		Only qualified persons allowed to defeat electrical interlocks on temporary basis while they work on equipment.	❑	❑	
USE OF EQUIPMENT					
1.		Portable electric equipment such as cord-and-plug connected equipment, including flexible cords:			
a)		Handled in a manner to avoid damage.	❑	❑	
b)		Not used to raise or lower equipment.	❑	❑	
c)		Not fastened with staples or hung so as to damage insulation.	❑	❑	
d)		Visually inspected before each use on each shift.	❑	❑	
e)		Defective items removed from service and not used until rendered safe.	❑	❑	
f)		Plugs and receptacles mate properly.	❑	❑	
g)		Flexible grounding-type cords have a grounding conductor.	❑	❑	
h)		Grounding plug not defeated.	❑	❑	
i)		Adapters which interrupt grounding continuity not used.	❑	❑	
j)		Approved equipment used for work in conductive work locations (e.g. wet locations, etc.).	❑	❑	
k)		Locking-type connectors are properly secured after connection.	❑	❑	

TRAINING ITEM	YES ☑	N/A ☑	COMMENTS
ELECTRIC POWER AND LIGHTING CIRCUITS			
1. Only load rated switches or circuit breakers used as disconnecting means.	❑	❑	
2. Circuits not manually reenergized until it is determined that it is safe to do so.	❑	❑	
3. Overcurrent protection of circuits not modified.	❑	❑	
TEST INSTRUMENTS AND EQUIPMENT			
1. Used by qualified persons only.	❑	❑	
2. Visually inspected before use.	❑	❑	
3. If circuit tested is over 600 volts, nominal, test instrument tested for proper operation before and immediately after the test.	❑	❑	
4. Test instrument rated for the circuit to be tested and appropriate for the environment.	❑	❑	
5. Electrical equipment capable of igniting flammable or ignitable materials not used if present in the worksite.	❑	❑	
SAFEGUARDS FOR PERSONNEL PROTECTION			
1. Protective equipment used when there is exposure to potential electrical hazards.	❑	❑	
2. Protective equipment maintained in safe and reliable condition and tested and inspected as required.	❑	❑	
3. Protective equipment protected from damage during use.	❑	❑	
4. Approved electrically rated hardhats used as needed to protect head from electric shock or burns.	❑	❑	
5. Safety glasses or goggles used as needed to protect eyes or face when there is a danger of arcs, flashes or flying objects.	❑	❑	
6. Approved gloves worn that are appropriate for the hazard present	❑	❑	
7. Insulated tools or handling equipment used when conductors may be contacted.	❑	❑	
8. Insulated fuse handling equipment used to remove or install fuses when terminals are energized.	❑	❑	
9. Ropes and handlines used near energized parts are nonconductive and are protected from moisture.	❑	❑	
10. Protective shields, barriers or insulating materials are used to protect employees working near exposed energized parts.	❑	❑	
ALERTING TECHNIQUES			
1. Safety signs and tags used when necessary to warn employees about electrical hazards.	❑	❑	
2. Barricades used with safety signs when necessary to prevent or limit employee access to work areas with un-insulated energized conductors or parts.	❑	❑	
3. Attendants stationed as needed to warn when signs or barricades are not sufficient to prevent unauthorized access.	❑	❑	

Name of Trainer:		Date:
EMPLOYEE NAME	Employee Name	Employee Name

Training Log		
Date	**Topic**	**Trainee**

Highline Steel Systems

Housekeeping Program

Housekeeping Program

Good housekeeping is a necessary requirement for maintaining safety at any working area. Clean and tidy work sites hold fewer hazards for all employees. Accidents and injuries are avoided and productivity improved where good housekeeping is a daily occurrence. This program constitutes the company's policy in complying with OSHA's housekeeping requirements, including as underlined in 29 CFR 1926.25 and 29 CFR 1926.151

Highline Steel Systems believes that good housekeeping is possibly the most visible evidence of management and employee concern for safety and health that can be displayed on a day-to-day basis. Orderliness in our workplace contributes to a safe working environment by minimizing obstacles and potential safety and health threats such as spills, trip hazards, etc. In fact, we have nine good reasons for housekeeping:

- Prevents accidents
- Prevents fire
- Saves time
- Gives control to our workers
- Increases production
- Gives our workers the freedom to move
- Gives our workers pride
- Protects our products and equipment
- Reduces our waste.

Administrative Duties

The site supervisor is responsible for implementing and maintaining the program. A copy of the plan may be reviewed by employees.

We strive for clear understanding, safe behavior, and involvement from every level of the company.

Walk-Around Assessment

Employees walk around the facility/job site for an assessment to identify main housekeeping issues. These persons look for a lack of order, un-removed spills or obstructions, or other hazards due to poor organization or poor housekeeping. They ask employees working in each area to identify and recommend corrective actions for their area. They also walk around the grounds to see if there is refuse or an untidy appearance due to storing materials haphazardly.

Housekeeping Procedures

It is the intent of this company to standardize housekeeping measures, meet OSHA requirements, and encourage safety.

Storage and Scrap Areas

Job sites securely store material by piling or arranging it in an orderly manner. Our housekeeping procedures for storage areas which keep them free from accumulation of materials that constitute hazards from tripping, fire, explosion, or pest harborage are:
Open yard storage housekeeping procedures include:

- Combustible materials must be piled with due regard to the stability of piles and in no case higher than 20 feet.
- Driveways between and around combustible storage piles must be at least 15 feet wide and maintained free from accumulation of rubbish, equipment, or other articles or materials. Driveways must be so spaced that a maximum grid system unit of 50 feet by 150 feet is produced.
- The entire storage site must be kept free from accumulation of unnecessary combustible materials. Weeds and grass must be kept down and a regular procedure provided for the periodic cleanup of the entire area.
- When there is a danger of an underground fire, that land must not be used for combustible or flammable storage.
- Method of piling must be solid wherever possible and in orderly and regular piles. No combustible material may be stored outdoors within 10 feet of a building or structure.

- Storage may not obstruct, or adversely affect, means of exit.

- All materials must be stored, handled, and piled with due regard to their fire characteristics.
- Non-compatible materials, which may create a fire hazard, must be segregated by a barrier having a fire resistance of at least 1 hour.
- Material must be piled to minimize the spread of fire internally and to permit convenient access for firefighting. Stable piling shall be maintained at all times. Aisle space shall be maintained to safely accommodate the widest vehicle that may be used within the building for firefighting purposes.
- Clearance of at least 36 inches must be maintained between the top level of the stored material and the sprinkler deflectors.
- Clearance must be maintained around lights and heating units to prevent ignition of combustible materials.
- A clearance of 24 inches must be maintained around the path of travel of fire doors unless a barricade is provided, in which case no clearance is needed. Material must not be stored within 36 inches of a fire door opening.

Aisles, Walkways, and Floor

Our facility does the following things to keep aisles, walkways and floors clean and open:

- Provide sufficient safe clearances and access to any and all work stations and work areas, fire aisles, fire extinguishers, fire blankets, electrical disconnects, safety showers, other emergency aids, doors, and access to stairways.
- Clearly mark to distinguish walkways from areas not for pedestrian traffic.
- Keep aisles and walkways free of physical obstructions that would prevent access, including path-blocking objects, liquid or solid spills, and other obstructions.
- Keep aisles at least 3 feet wide where necessary for reasons of access to doors, windows, or standpipe connections.

- Keep stairs clean, dry, and free of waste, well-lit, and provided with adequate hand rails and treads that are in good condition.
- Keep floors clean; dry (dry as possible); slip-resistant; and free of waste, unnecessary material, oil and grease, protruding nails, splinters, holes, or loose boards.
- Provide an adequate number of waste receptacles at accessible locations throughout all work areas.

Our housekeeping procedures for our production areas include:

- Maintain adequate lighting systems in a clean and efficient manner and replace bulbs as soon as possible after failure.
- Properly maintain walls.
- Keep windows clean by washing them regularly.
- Keep blinds clean by washing regularly.
- Properly maintain doors and windows in a good working order and repair any damage to doors and windows as soon as possible.
- Provide adequate ventilation to all work areas to keep air free of dust and other contaminants.
- Maintain and clean all ventilation systems and HVAC systems at regular intervals.

Loading Docks

- Keep all loading dock areas free of unnecessary materials accumulation.

- Have emergency spill kits and other spill clean-up equipment and materials available in the loading dock area.
- Clean up spills as soon as they occur.
- Keep all overhead doors clean and free of rust or dirt at hinges.

Outside the Facility

Our housekeeping procedures for keeping our grounds and building faces/sides neat and orderly include:

- Keep the parts of buildings that are visible to public roads cleaned by washing them at regular intervals.
- Keep the other parts of buildings cleaned at regular intervals.
- Keep all doors and loading docks completely free of debris, shrubs, or other obstructions.
- Maintain visibility through all windows by washing at regular intervals.
- Keep doors and windows properly maintained in good working order.
- Repair any damage to doors and windows at regular intervals.
- Provide any stairs or platforms adjacent to or leading into the building(s) with adequate rails, adequate treads to climb, and an area clean and free of materials.
- Keep grounds neat and orderly, free of refuse and unnecessary materials.
- Store materials outdoors only in designated areas of the grounds.
- Provide designated walkways through grounds, preferably paved and kept clear of snow, ice, materials, or any other physical hazards.
- Provide a lighting system that is adequate to allow employees to navigate around the grounds as necessary at dusk and after dark.

- Maintain a neat landscaping appearance--trim lawn, trees and shrubs in such a way as to minimize any possible safety hazards.
- Trim grass short enough to prevent trip hazards to employees.
- Prevent trees and shrubs from obstructing doors and windows.

Training

All of our employees, including maintenance and contractor employees, need to fully understand the safety and health hazards of poor housekeeping and improper chemical storage to protect themselves, their fellow employees, and the citizens of nearby communities. While training in Hazard Communication will help employees to be more knowledgeable about the chemicals they work with as well as familiarize them with reading and understanding MSDS's, we will also train them as part of our Housekeeping Program, covering housekeeping procedures and safe work practices, hazard reporting, and other areas pertinent to housekeeping.

Our Safety Coordinator trains employees on housekeeping procedures. He/she trains new employees at the time of their initial assignment.

Employees must sign documentation upon completion of their training. All training and retraining records contain the identity of the employee, the date of training, and the means used to verify that they understood their training.

Contracting

Our company uses contractors to perform work in and around processes that involve housekeeping procedures. Our goal is to hire contractors who accomplish the desired job tasks without compromising the safety and health of employees.

Our company obtains and periodically evaluates the contract employer's safety performance and programs. We inform and train contract employers of the known hazards which could develop from poor housekeeping, but which relate to the contractor's work and processes.

We ensure that the contract employer advises our organization of any unique hazards presented by the contract employer's work by maintaining and promoting communication and an open door policy for the identification, and mitigation of recognized safety and health hazards.

Employee Participation

Our employees are a significant ally in implementing and maintaining an effective housekeeping program for the facility. Swan Roofing strongly encourages employees to participate in:

- Conducting and developing the housekeeping program elements and hazard assessments as well as incident investigation findings.
- Obtaining access to the housekeeping program including any hazard analyses.

Highline Steel Systems

Emergency Action Plan

OSHA-Required Elements and Company-Specific Response Elements

CONTENTS

Part II - Specific Emergency Response Elements

- Types of Emergencies
- Miscellaneous Emergency Information

Introduction

Highline Steel Systems is committed to providing safe working practices in each of its establishments. Achieving this goal requires an awareness of potential hazards that can arise in the workplace and utilization of appropriate means to deal with those hazards if they arise.

This Emergency Action Plan addresses actions that will be taken when actual or threatening hazards require evacuation of some or all of the work area, or declaration of an emergency as a result of threatening circumstances that must be dealt with by personnel.

Part I of this Emergency Action Plan contains OSHA-required plan elements, and Part II reflects company-specific plan elements. By utilizing both sets of elements, the safety and appropriateness of actions taken by personnel during an emergency can be maximized.

This plan shall be kept on file and be available for review by all personnel.

Emergency Action Plan Purpose

When an emergency occurs, the first priority is to prevent fatalities and injuries to people. The

prevention of damage to property and the environment is a second priority.

This emergency plan establishes an organized approach to actions that are to be taken during emergencies that are declared as a result of real or threatened circumstances, such as severe weather episodes, large fires, explosions, or toxic chemical releases. It is not intended to be an all-inclusive plan of action, but offers basic guidelines for planning actions that should be taken during an emergency.

Part I - OSHA REQUIRED ACTION PLAN ELEMENTS

1. Procedure for Notification of an Emergency

In the event of an emergency situation, affected employees are to be notified by an alarm signal, telephone, radio, or by mouth. The Senior Manager or supervisor in charge of the work area at the time will oversee actions taken during the emergency. The following persons should be notified as soon as possible after any immediate, life-threatening circumstances have been dealt with:

NAME	HOME #
Bob Blackwelder, Principal	

One or more outside agencies may need to be contacted during an emergency for medical aid, rescue, firefighting, evacuation, spill response, turning off gas or electricity, or information.

City Fire Department	911
Police Department	911
Clinic	
National Response Center	1-800-424-8802
Ambulance	911
Electric Utility	

If it becomes necessary to notify emergency response agencies, clearly communicate the following

information to agency personnel to the extent that such is available:

1. The nature of the emergency.
2. The location of the emergency site, including any off-site areas that might be threatened or affected.
3. Urgency of need for emergency responders.
4. Brief assessment of needs from emergency responders (firefighting, rescue, medical assistance, public protection, spill containment, etc.).
5. Hazards that should be avoided by emergency responders as they arrive at the scene.
6. Who to contact at the company in person or by telephone or radio.
7. Provide first responders with any pertinent MSDS information on emergency response and health effects of chemicals that may be involved.

2. EMERGENCY RESPONSE AND EVACUATION PROCEDURES

Refer to the site map for designated evacuation routes, evacuation (safe) areas and potential danger areas.

Incidents Controllable by Personnel - No Evacuation Required

Incidental or minor spills, releases or fires that can be safely neutralized or controlled by employees, not needing evacuation, are not considered emergencies governed by this Emergency Response Plan.

Uncontrolled Incidents That Require Evacuation

In the event of a major spill, release, fire, or other hazardous situation that warrants a full evacuation or danger area evacuation, personnel are required to evacuate in accordance with evacuation procedures.

Employees are not permitted to remain in or re-enter evacuated areas to assist in handling. UNCONTROLLED chemical spills. If evacuation is ordered and an uncontrolled chemical spill is involved, only outside emergency responders, e.g. firemen, emergency medical or rescue teams, or clean-up contractors are allowed to enter the evacuation area until the chemical is controlled and/or neutralized, or determined to be nonhazardous.

One exception to this restriction would be if control of an emergency situation could be safely undertaken outside the emergency evacuation area by danger-reducing actions, such as the opening or closing of valves, switches, breakers, vents, pipes, etc. Another exception would be voluntary first-aid treatment or rescue operations performed by an employee, provided the employee has taken proper precautions to avoid falling victim to the emergency himself; i.e., a respirator and other appropriate protective equipment should be used as needed.

Critical Operations Personnel

Company Management is designated as Critical Operations Personnel. Only those employees designated as Critical Operations Personnel are authorized to make decisions on actions to be taken during full evacuation. In the absence of Critical Operations Personnel, such as after hours and on weekends, the Process Operator on duty will function as the Critical Operations person until others are on-site. Critical Operations Personnel duties include:

1. Providing back-up notification to employees to evacuate in case audible evacuation alarms malfunction or cannot be heard.
2. Remaining in the control room and office area, as long as it is safe to monitor the emergency.
3. Notifying outside emergency response agencies as necessary.
4. Implementing operational control processes to correct or lessen the emergency situation.

The decision to declare an evacuation will be made after the manager or designee, with concurrence from Company Management whenever possible, has determined that a clear and immediate danger exists that could jeopardize the life or health of affected company personnel and/or contract personnel.

Full Evacuation

In the unlikely event that the need to completely evacuate the area becomes necessary, employees will be alerted by a call from management. All non-critical employees will then immediately proceed to safe areas by utilizing the appropriate designated evacuation route as shown on the site map. Critical employees will evacuate, if necessary, after performance of the duties listed on page 4.

1) Flammables

The potential for fire is probably the most inherent danger that exists. Should a fire break out in any area, personnel in the affected area must immediately notify employees. Employees will be alerted that there is a fire by voice call.

2) Uncontrollable Releases, Real or Threatened

If there is a real or threatened occurrence of an uncontrollable leak or spill, a need may occur to classify that section of the work area downwind of the spill area as a danger zone to prevent exposure of workers to concentrations of hazardous substances that could cause injury or death. Should it be determined that an uncontrollable leak or spill has occurred or is likely, and evacuation of some or all of the work area becomes necessary, the company employees are not allowed to remain in an evacuation zone for any reason. Once evacuation of any area(s) takes place, no employee can re-enter until Management or his designated alternate determines that the concentration of hazardous substances in the area(s) is at a safe level and gives an "all clear" indication to the workers.

In summary, employees are not allowed to work in or around an uncontrollable release of hazardous substances in a manner that might cause them to become exposed to that chemical. Any attempts to control such a release must be done from a remote, unexposed location or by outside emergency response companies and/or agencies, including fire departments, police, emergency medical responders, and private spill control contractors.

Evacuation Procedure for Flammables

1. Immediately alert and evacuate personnel downwind from the release site.
2. Personnel are to proceed crosswind from the site to safe areas utilizing the appropriate designated evacuation route.
3. Follow emergency notification procedure.
4. The personnel listed in this plan's Procedure for Notification will be responsible for notifying all emergency and environmental agencies.

Accounting for Personnel

When an evacuation takes place for any reason, management will be responsible for ensuring that each person in his department is accounted for. Each Supervisor will then report to his respective superior on the emergency notification list. Emergency search and rescue procedures will be initiated for any persons who have not been accounted for, with help from outside emergency responders as needed.

All Clear

Personnel will be notified that it is safe to re-enter the evacuated area by only those employees designated as "Critical Operations Personnel" who will get the all-clear notification from the Company Manager or his designee. Under no circumstance will employees rely on second-hand notification by other than Critical Operations personnel.

Evacuation Routes and Safe Areas

- Include full building layout including nearby surrounding roads and structures
- Highlight evacuation route and any alternate routes.
- Highlight danger areas
- Highlight primary "safe" areas and alternate "safe" areas where employees are to gather for headcount.

3. TRAINING REQUIREMENTS

Critical personnel have been trained to assist in the safe and orderly emergency evacuation of employees.

Critical personnel are responsible for ensuring that the contents of this Emergency Action Plan be discussed with and understood by all work area employees at each of the following times:

1. Initially when the plan is developed.
2. Whenever the plan is changed.
3. Whenever the employee's responsibilities or designated actions under the plan change.
4. During new employee orientation.

PART II - COMPANY SPECIFIC EMERGENCY RESPONSE ELEMENTS

1. TYPES OF EMERGENCIES

Fires, explosions or chemical releases may present a degree of hazard that requires protection of the perimeter and evacuation of those who may become exposed to the danger. These dangers may exist

without the presence of smoke, flames or fumes.

1) Chemical Spill or Release

Hazard Communication Standard chemical lists and material safety data sheets on each chemical are kept in the Safety Coordinator's office.

Most chemical spills or releases that might occur can be quickly controlled and handled by company personnel and will not require notification of emergency response agencies, except for possible instances of having to notify federal or state agencies as a requirement of law, although the need for emergency action would probably remain unnecessary.

2) Fire

In many cases, small fires can be handled by company. In the event a fire becomes too large or dangerous for personnel to maintain safe control, the Fire Department should be contacted and the notification process should be implemented. Likewise, most fires at the building can be extinguished with fire extinguishers. Fires that cause release of toxic chemicals, vapors or smoke could create the need to stage full or partial evacuation of the building, as could possible exposure of employees to flames of the fire.

3) Tornado

The threat of a tornado will be monitored by radio and by eye as observable weather conditions deteriorate. The Company Manager or his designee will make the decision as to what course of action to take; e.g. operation control safeguards, building evacuation, etc. should a tornado be imminent.

2. MISCELLANEOUS EMERGENCY INFORMATION

First Aid

Any time that company volunteers cannot provide adequate first aid for injured persons, Emergency Medical Service should be contacted immediately.

Company and Personal Protective Equipment

Field workers maintain a continuous inventory of personal protective equipment, such as rubber boots, gloves, safety glasses, dust masks, gas detectors, hard hats, and various other types of personal protective equipment and safety equipment including ropes, safety belts, harnesses, and pressure-demand hose line respirators. Use of these PPE is mandatory and any violations of this policy could result in disciplinary action including termination.

Community Response That Is Available

Fire Department	911
Police Department	911
Clinic	
Ambulance	911

Public Relations

All news releases, statements to the press, briefings, and information dealing with any aspect of the emergency at hand is to be issued by the Company President or his designated alternate -- no exceptions.

Traffic

Should the necessity for roadblocks arise, the County Sheriff's Department and the Police Department will be responsible for the roadblocks. The company will provide personnel for the roadblocks only if an immediate danger is presented to passersby, in which case company employees will detour traffic until the Police Department or Sheriff's Department arrives.

Highline Steel Systems

Fire Prevention Program

Training Log		
Date	**Topic**	**Trainee**

Purpose

Highline Steel Systems Fire Safety Plan has been developed to work in conjunction with company emergency plans and other safety programs. This includes reviewing all new building construction and renovations to ensure compliance with applicable state, local, and national fire and life safety standards. Fire prevention measures reduce the incidence of fires by eliminating opportunities for ignition of flammable materials.

Responsibilities

Management

- Ensure all fire prevention methods are established and enforced
- Ensure fire suppression systems such as sprinklers and extinguishers are periodically inspected and maintained to a high degree of working order
- Train supervisors to use fire extinguishers for incipient fires
- Train employees on evacuation routes and procedures

Supervisors

- Closely monitor the use of flammable materials and liquids at job sites
- Train assigned employees in the safe storage, use and handling of flammable materials
- Ensure flammable material storage areas are properly maintained

Employees

- Use, store and transfer flammable materials in accordance with provided training
- Do not mix flammable materials
- Immediately report violations of the Fire Safety Program

Hazards

Fire and explosion hazards can exist in almost any work area. Potential hazards include:

- Improper operation or maintenance of gas fired equipment
- Improper storage or use of flammable liquids; only metal containers will be allowed at job sites
- Smoking in prohibited areas
- Accumulation of trash
- Unauthorized Hot Work operations

Hazard Control

Elimination of Ignition Sources

All nonessential ignition sources must be eliminated where flammable liquids are used or stored. The following is a list of some of the more common potential ignition sources:

- Open flames, such as cutting and welding torches, furnaces, matches, and heaters-these sources should be kept away from flammable liquids operations. Cutting or welding on flammable liquids equipment should not be performed unless the equipment has been properly emptied and purged with a neutral gas such as nitrogen.
- Chemical sources of ignition such as d.c. motors, switched, and circuit breakers-these sources should be eliminated where flammable liquids are handled or stored. Only approved explosion-proof devices should be used in these areas.
- Mechanical sparks-these sparks can be produced as a result of friction. Only non-sparking tools should be used in areas where flammable liquids are stored or handled.
- Static sparks-these sparks can be generated as a result of electron transfer between two contacting surfaces. The electrons can discharge in a small volume, raising the temperature to above the ignition temperature. Every effort should be made to eliminate the possibility of static sparks. Also proper bonding and grounding procedures must be followed when flammable liquids are transferred or transported.

Removal of Incompatibles

Materials that can contribute to a flammable liquid fire should not be stored with flammable liquids. Examples are oxidizers and organic peroxides, which, on decomposition, can generate large amounts of oxygen.

Control of Flammable Gases

Generally, flammable gases pose the same type of fire hazards as flammable liquids and their vapors. Many of the safeguards for flammable liquids also apply to flammable gases, other properties such as toxicity, reactivity, and corrosivity also must be taken into account. Also, a gas that is flammable could produce toxic combustion products.

Fire Extinguishers

A portable fire extinguisher is a "first aid" device and is very effective when used while the fire is small. The use of fire extinguisher that matches the class of fire, by a person who is well trained, can save both lives and property. Portable fire extinguishers must be installed in workplaces regardless of other firefighting measures. The successful performance of a fire extinguisher in a fire situation largely depends on its proper selection, inspection, maintenance, and distribution.

Classification of Fires and Selection of Extinguishers

Fires are classified into four general categories depending on the type of material or fuel involved. The type of fire determines the type of extinguisher that should be used to extinguish it.

1) Class A fires involve materials such as wood, paper, and cloth which produce glowing embers or char.
2) Class B fires involve flammable gases, liquids, and greases, including gasoline and most hydrocarbon liquids which must be vaporized for combustion to occur.
3) Class C fires involve fires in live electrical equipment or in materials near electrically powered equipment.
4) Class D fires involve combustible metals, such as magnesium, zirconium, potassium, and sodium.

Extinguishers will be selected according to the potential fire hazard, the construction and occupancy of facilities, hazard to be protected, and other factors pertinent to the situation.

Location and Marking of Extinguishers

Extinguishers will be conspicuously located and readily accessible for immediate use in the event of fire. They will be located along normal paths of travel and egress. Wall recesses and/or flush-mounted cabinets will be used as extinguisher locations whenever possible.

Extinguishers will be clearly visible. In locations where visual obstruction cannot be completely avoided, directional arrows will be provided to indicate the location of extinguishers and the arrows will be marked with the extinguisher classification.

If extinguishers intended for different classes of fire are located together, they will be conspicuously marked to ensure that the proper class extinguisher selection is made at the time of a fire. Extinguisher classification markings will be located on the front of the shell above or below the extinguisher nameplate. Markings will be of a size and form to be legible from a distance of 3 feet.

Condition

Portable extinguishers will be maintained in a fully charged and operable condition. They will be kept in their designated locations at all times when not being used. When extinguishers are removed for maintenance or testing, a fully charged and operable replacement unit will be provided.

Mounting and Distribution of Extinguishers

Extinguishers will be installed on hangers, brackets, in cabinets, or on shelves. Extinguishers having a gross weight not exceeding 40 pounds will be so installed that the top of the extinguisher is not more than 3-1/2 feet above the floor.

Extinguishers mounted in cabinets or wall recesses or set on shelves will be placed so that the extinguisher operating instructions face outward. The location of such extinguishers will be made conspicuous by marking the cabinet or wall recess in a contrasting color which will distinguish it from the normal decor.

Extinguishers must be distributed in such a way that the amount of time needed to travel to their location and back to the fire does not allow the fire to get out of control. OSHA requires that the travel distance for Class A and Class D extinguishers not exceed 75 feet. The maximum travel distance for Class B extinguishers is 50 feet because flammable liquid fires can get out of control faster that Class A fires. There is no maximum travel distance specified for Class C extinguishers, but they must be distributed on the basis of appropriate patterns for Class A and B hazards.

Inspection and Maintenance

Once an extinguisher is selected, purchased, and installed, it is the responsibility of job superintendent to oversee the inspection, maintenance, and testing of fire extinguishers to ensure that they are in proper working condition and have not been tampered with or physically damaged.

Fire Safety Inspections & Housekeeping

Field supervisors and Safety Committees are responsible for conducting work site surveys that include observations of compliance with the Fire Safety Program. These surveys should include observations of worksite safety and housekeeping issues and should specifically address proper storage of chemicals and supplies, unobstructed access to fire extinguishers, and emergency evacuation routes. Also, they should determine if an emergency evacuation plan is present in work areas and that personnel are familiar with the plan.

Emergency Exits

Every exit will be clearly visible, or the route to it conspicuously identified in such a manner that every occupant of the building will readily know the direction of escape from any point. At no time will exits be blocked.

Any doorway or passageway which is not an exit or access to an exit but which may be mistaken for an exit, will be identified by a sign reading "Not An Exit" or a sign indicating it actual use (i.e., "Storeroom"). Exits and accesses to exits will be marked by a readily visible sign. Each exit sign (other than internally illuminated signs) will be illuminated by a reliable light source providing not less than 5 foot-candles on the illuminated surface.

Emergency Plan for Persons with Disabilities

The first line supervisor is assigned the responsibility to assist Persons with Disabilities (PWD) under their supervision. An alternate assistant will be chosen by the supervisor. The role of the

two assistants is to report to their assigned person, and to either assist in evacuation or assure that the PWD is removed from danger.

- Supervisors, alternates, and the person with a disability will be trained on available escape routes and methods.
- A list of persons with disabilities is kept in the _____ Office.
- Visitors who have disabilities will be assisted in a manner similar to that of company employees. The Host of the person with disabilities will assist in their evacuation.

Emergencies Involving Fire

Fire Alarms

In the event of a fire emergency, a fire alarm or voice call will sound.

Evacuation Routes and Plans

Each facility shall have an emergency evacuation plan. All emergency exits shall conform to NFPA standards.

Should evacuation be necessary, go to the nearest exit or stairway and proceed to an area of refuge outside the building. Most stairways are fire resistant and present barriers to smoke if the doors are kept closed.

Do not use elevators. Should the fire involve the control panel of the elevator or the electrical system of the building, power in the building may be cut and you could be trapped between floors. Also, the elevator shaft can become a flue, lending itself to the passage and accumulation of hot gases and smoke generated by the fire.

***Emergency Coordinators*/Supervisors**

Emergency Coordinators/Supervisors will be responsible for verifying personnel have evacuated from their assigned areas.

Fire Emergency Procedures

If you discover a fire

1. Activate the nearest fire alarm.
2. Notify your Supervisor and other occupants.

Fight the fire ONLY if

1. The fire department has been notified of the fire, AND
2. The fire is small and confined to its area of origin, AND
3. You have a way out and can fight the fire with your back to the exit, AND

4. You have the proper extinguisher, in good working order, AND know how to use it.
5. If you are not sure of your ability or the fire extinguisher's capacity to contain the fire, leave the area.

If you hear a fire alarm or call

1. Evacuate the area. Close windows, turn off gas jets, and close doors as you leave.
2. Leave the building and move away from exits and out of the way of emergency operations.
3. Assemble in a designated area.
4. Report to the monitor so he/she can determine that all personnel have evacuated your area.
5. Remain outside until competent authority states that it is safe to re-enter.

Evacuation Routes

1. Learn at least two escape routes, and emergency exits from your area.
2. Never use an elevator as part of your escape route.
3. Learn to activate a fire alarm.
4. Learn to recognize fire calls.
5. Take an active part in fire evacuation drills.

Highline Steel Systems

Medical Management and First Aid

Training Log		
Date	**Topic**	**Trainee**

Medical Management & First Aid

General

Occupational health concerns receive high priority. It is essential that the company be able to adequately respond to first-aid events and resolve all other occupational health problems quickly. The health and wellness of each employee is a key segment of the overall safety environment.

OSHA Requirements

OSHA requirements for medical services and first aid are found in Standard Number 1910.151 and are listed below:

- Ensure the ready availability of medical personnel for advice and consultation on matters of plant health.

- In the absence of an infirmary, clinic, or hospital in near proximity to the workplace which is used for the treatment of all injured employees, a person or persons shall be adequately trained to render first aid.

- Where the eyes or body of any person may be exposed to injurious corrosive materials, suitable facilities for quick drenching or flushing of the eyes and body shall be provided within the work area for immediate emergency use.

Responsibilities

Management

- Ensure there is a sufficient number of qualified first-aid providers
- Provide first aid training for all supervisors
- Offer first aid training for all employees

Safety Coordinator

- Ensure first-aid and health programs are adequate
- Maintain all required records
- Ensure First-Aid supplies are always well stocked
- Conduct First Aid Training
- Administration of all medical management programs
- Administration of the Return to Work Program
- Provide all necessary services in a courteous and professional manner

- Follow recommended medical practices and procedures.
- Adhere to all standards of the Blood-borne Pathogen Program

Records

Treatment Records are permanent records and will be filled out for any of the following:

- All visits to the company First-Aid Station w/ exception of visits for minor cuts, comfort care, etc.
- All accidents that result in any injury
- All Occupational Illnesses
- Prior to referral to any medical provider

Medical Appointment Log will be filled in when any appointment for medical treatment, evaluation, or other medical service is made for an employee.

Modified Duty Assignment forms shall be completed by **Human Resources** for any employee who has a condition that prevents them from conducting their normal duties. This form shall be used to notify management of the limitations of the employee. Management will assign tasks consistent with any limitations. Questions concerning the limitations are to be directed to **Human Resources. HR** shall maintain a file for original forms. Copies shall be provided to the employee, the employee's Supervisor and Manager.

Confidentiality: Records of all first-aid and medical events shall be kept in each individual's medical file at the HR office. All medical record information is confidential and shall not be released to third parties without written authorization by the employee involved or as authorized by law.

First Aid Kits

Well stocked First-Aid kit(s) for employee use will be maintained.

- The basic inventory of each first aid kit must be approved by the company consulting physician.

- These kits will be located so as to allow easy and quick access. First-aid kits and required contents are to be maintained in a serviceable condition.

- All items which must be kept sterile must be individually wrapped and sealed. Items such as scissors, tweezers, tubes of ointments

with caps, or rolls of adhesive tape, need not be individually wrapped, sealed, or disposed of after a single use or application.

Post-Accident Substance Abuse Evaluations

For all accidents that result in injuries or property damage or that require off-site medical attention and/or evaluation, a DOT Drug and Alcohol screening will be conducted in accordance with procedures provided by the Texas State Worker's Compensation Program. This screening is part of the company Drug Free Workplace Program.

Medical Referrals

The safety coordinator will arrange for employees to see appropriate medical care providers for other than minor work related complaints. A *Medical Referral and Work Release Form* shall be filled in by the safety coordinator all medical referrals. This record shall accompany the employee to the care provider and be returned for use in determining the need for any modified duty.

Modified Duty

When an employee has been identified by proper medical authority as having a condition that would limit them in their normal job function, safety coordinator shall initiate a *Modified Duty Assignment Sheet.* This sheet will list the limitations and advise management of the need for assignment to duties that will not exceed the limitations. Management will assign limited duties in writing on the *Modified Duty Assignment Sheet*. The original shall remain in a Pending & Review file, held by human resources, to prompt periodic monitoring of the employees condition. Copies shall be provided to the employee, the employee's supervisor and management.

Return to Duty

When conditions have changed, such that the Employee no longer has limitations, the safety coordinator shall initiate Return To Duty actions by filling out the reverse side of the *Modified Duty Assignment* sheet. The safety coordinator shall consult with the employee's manager to provide guidance for any appropriate reconditioning program based on the Employee's normal job functions. Examples of elements that would be considered are normal job functions, length of time away from normal job, type of limitation, etc. If the limitation was caused by physiological stress factors, the safety coordinator will provide the employee information to be used to minimize the chance of reoccurrence of the same or similar stress

limitation. The original form shall be filed in the employee's Medical Record and copies provided to the employee, supervisor and manager.

Log of Changes : Contractor Safety Program		
Date	**Person**	**Change(s)**

Highline Steel Systems

Sub-Contractors Safety Program

Forms:

HSS Questionnaire Contractor Safety
Safety Record Review and Approval of Contractor
Contractor Safety Potential Hazard Notification
Health & Safety Information Sheet
Job Start Safety Meeting Checklist
Contractors Safety Briefing
Notice of Safety Non-Compliance
Warning Letter for safety non-compliance
Warning Notice of Job Suspension

1.0 Introduction:

It is the policy of the company to inform contractors of site conditions that might raise health and safety concerns that are unusual or unique to the company operations.

It is the responsibility of the contractor to protect his/her employees, subcontractors, and suppliers, and to provide a safe place of employment. The implementation of this Program does not imply that the company is establishing or enforcing safety practices for the benefit of a contractor subcontractor, supplier or their employees.

Highline Steel Systems personnel, upon discovering health and safety concerns that are not compliant with generally accepted safe work practices or OSHA standards, are authorized to take the appropriate action to ensure that the contractor is informed of such concerns, and to ensure that HSS personnel are not exposed to a known and recognized hazardous condition.

2.0 Purpose:

This document has been developed as a guideline to assist HSS personnel in proactively communicating to contractors any known and recognized health and safety concerns, unique to HSS activities that may affect contractor operations.

3.0 Scope:

This guideline should be reviewed and, as appropriate, applied by all HSS employees who secure the services of a contractor for the purpose of:

- New construction
- Remodeling
- Facility maintenance or repair
- Equipment maintenance
- Equipment replacement
- Retrofits and modifications
- Inspection and testing services

4.0 Responsibilities:

4.1 Hiring Supervisor

- Review the contractor's OSHA 300 and 301 logs and complete HCC's Contractors Questionnaire form and Safety Record Review and Contractor Approval form before the contractor is awarded the job.
- Review and complete Safety Potential Hazard Notification form with the contractor before the commencement of the job.
- Review the requirements of Section 4.3 below with the contractor

4.2 EHS Coordinator

- Provide training to the contractor on the job's general safety rules.
- Provide general carbon black plant hazard information to the contractor.

4.3 Outside Contractors

- Ensure that each contract employee understands the applicable sections of HSS safety and health program and is aware of the specific worksite hazards involved in their work.
- Enforce all on-site safety rules for all contract employees.
- Train the contract employees on the safe procedures for their jobs.
- Advise HSS of any additional hazards that may occur as a result of the contract work and let SRCE know how these hazards are being addressed.
- Advise HSS of any additional hazards that the contracting employees may have found.

5.0 Definitions:

- **Contract –** Any written agreement between HSS and a contractor to perform a specified scope of work within the geographic boundaries of the facility.
- **Contractor –** The individual, partnership, corporation, joint venture, or other legal entity having a contract with HSS to perform work.
- **Contractor Safety Potential Hazard Notification** – A notification provided by HSS to the contractor that summarizes or lists known and recognized potential hazards unique to HSS operations
- **IDLH –** Immediately Dangerous to Life and Health
- **Notice of Non-Compliance (Safety) Form –** A written notice provided to the contractor by HSS, alerting the contractor to the fact that he/she may not be in compliance with the HSS's specification, OSHA regulations or other generally accepted safe work practice.
- **Job Start Safety Meeting Checklist** – A checklist used by HSS personnel to ensure that health and safety issues are discussed, and relevant safety information is provided to the contractor prior to commencing activities.
- **Safety Concern –** Situations that may become, or are hazardous if generally accepted safe work practices are not followed.
- **Non-Compliant Hazardous Work Condition –** Any hazard that is considered to be non-compliant with Federal, state, or Local environmental health and safety guidelines or that is inconsistent with good engineering or generally accepted safe work practices.

6.0 Construction Projects

6.1 Job Start Safety Meeting Preparation

Before holding a Job Start Meeting, the Supervisor will complete the "Contractor Safety Potential Hazard Notification" form. The form should list any specific safety hazards associated with the project.

6.2 General Job Start Safety Meeting Guidelines

6.2.1 The purpose of the Job Start Safety Meeting is to:

- Inform or review with the contractor, known and recognized potentially hazardous conditions unique to HSS activities that are located within the immediate or surrounding area of the contractor's work site/location and
- Discuss/review information regarding the implementation and enforcement of the contractor's on-site safety program, to ensure the health and safety of HCC personnel.

6.2.2 The Job Start Safety Meeting group may include, but is not limited to the following individuals:

- The HSS Supervisor
- The Contractor's representative
- The HSS employee, designated by facility, who is most familiar with the potential hazards that the contractor may be exposed to during construction activities, and
- HSS EH&S Coordinator

6.2.3 During the Job Start Safety meeting HSS will:

- Discuss the "Contractor Safety Potential Hazard Notification" form, that lists (unless otherwise addressed in the Contract Specifications) the identified safety concerns unique to HSS operations
- Complete the "Job Start Safety Meeting Checklist" and discuss specific procedures used by HSS when engaging in the specified hazardous work activities (i.e., work relating to Laboratory Safety or Confined Space Entry, etc.) as may be listed in the contract specifications or on the "Contractor Safety Potential Hazard Notification" form, and
- Inform the contractor that a "Notice of Non-Compliance (Safety)" will be issued for noted unsafe conditions that could impact the contractor or HSS personnel.

6.2.4 The contractor shall review and sign the "Job Start Safety meeting Checklist" and the "Contractor Safety Potential Hazard Notification" form indicating that safety information has been provided to, and is understood by the Contractor.

6.2.5 Original documents shall be maintained by the HSS Supervisor in the files of the Department responsible for the oversight and/or inspection of the contractor's activities and copies shall be provided to the contractor.

7.0 Contractor Safety Deficiency Notifications

7.1 Addressing Contractor Hazards

7.1.1 The HSS Supervisor is authorized to stop contractor work activities where it is obvious that death or serious injury is imminent (i.e. remove HSS employees from potential exposure, and direct the contractor stop construction activities until the life threatening hazards have been abated), and shall immediately notify the EHS Coordinator and the Job Manager that the project has been halted.

7.1.2 The "Notice of Non-Compliance (Safety)" form shall be completed and provided to the contractor any time a serious regulatory, non-compliant condition has been observed and the contractor has not taken immediate action to correct the condition.

7.2.3 HSS employees who identify a hazardous situation at a contractor work location shall immediately notify the Supervisor of such concerns. The Supervisor shall then notify the contractor.

Contractor Safety Questionnaire

The purpose of this questionnaire is to indicate the experience, policies and procedures of the safety aspects of your company. This questionnaire is not intended to be, nor is it a comprehensive review of your safety program. HSS might re-certify you every 3 years using this form.

Company: _____ Date _____

Address: _____ State I.D. # _____

_____

_____

Services Offered: _____

OSHA RECORDABLE INCIDENTS

1. Please furnish a copy of your company's OSHA 300 Log from last year.

   Some companies are not required to complete the OSHA 300 Log because they have too few employees. If you do not complete the OSHA 300 Log, is it because your company has too few employees?

   YES ___ NO ___

   If your answer is "NO", please explain. _____
   _____
   _____

2. Provide the following safety information for the past three years: (OSHA information for facilities required to keep OSHA records. Pertinent accident data for all others.)

   Incident rates can be calculated by multiplying the total number of recordables by 200,000 man-hours and dividing that number by total man-hours worked.

		20__	20__	20__
1.	Overall Total Recordable Incident Rate*			
2.	Number of Lost Workday Cases*			
3.	Number of Recordable Injury Cases*			
4.	Number of Fatalities			
5.	Total Man-hours Worked			

*In accordance with the Bureau of Labor Statistics "Recordkeeping Guidelines for Occupational Injuries and Illnesses".

3. Do you hold site safety meetings for:

		YES	NO	FREQUENCY
1.	Field Supervisors?			
	Name and Title of person conducting meeting:			
2.	Employees?			
	Name and Title of person conducting meeting:			
3.	New Hires?			
	Name and Title of person conducting meeting:			
4.	Subcontractors?			
	Name and Title of person conducting meeting:			

4. How are accident records and accident summaries compiled?

		YES	NO	FREQUENCY
1.	Totaled for entire Company?			
2.	Totaled by Project/Job?			
3.	Subtotaled by Superintendent?			
4.	Subtotaled by Foreman?			

5. How are costs of individual accidents compiled?

		YES	NO	FREQUENCY
1.	Totaled for entire Company?			
2.	Totaled by Project/Job?			
3.	Subtotaled by Superintendent?			
4.	Subtotaled by Foreman?			

6. Do you have a Safety Officer/Department in your Company? YES ___ NO ___

   1. If yes, name and title of person: _____

   2. If yes, who does that person report to (Name/Title)? _____

   3. What qualification/experience/formal training in Safety does the person have? _____

7. Do you have a written Safety Program? YES ___ NO ___

8. Do you have a written Safety Manual? YES ___ NO ___

9. Are accident reports circulated for:

   Employees? YES ___ NO ___

   Supervisors? YES ___ NO ___

10. Do you conduct field safety inspections/audits? YES ___ NO ___

    If yes, what is the frequency of the inspections/audits? _____

    If yes, who conducts the inspection/audits (include title)? _____

    If yes, can a copy of all inspections/audits be provided to HSS? YES ___ NO ___

11. During foremen performance reviews, do you use safety as a criterion for rating purposes? YES ___ NO ___

12. Does your company hold "Tailgate Safety Meetings"? YES ___ NO ___

    If yes, how often? Daily ___ Weekly ___ Bi-Weekly ___ Monthly___ As needed___

    If yes, are rosters signed by attendees and kept on file? YES __ NO __

    If yes, please submit a sample copy of the format and topics discussed with this information.

13. Do you have a pre-job Employee and New Hire Safety Orientation Program? YES ___ NO ___

If yes, does it include instructions of the following?

	YES	NO
Company Safety Policy?		
Company Safety Rules, Procedures Incorporating Clients Safety Rules and Regulations		
Safety Meeting Attendance?		
Work Hazard Reporting?		
Injury Reporting?		
Personal Protective Equipment?		
Housekeeping?		
Fire Protection?		
Driving Safety?		
Toxic Substances?		
First Aid?		
Electrical Safety?		
Rigging Safety?		
Other (identify) _____		

14. Does your company hold specialized Safety Training meetings for newly hired or promoted Foreman?
YES ___ NO ___

If yes, do the meetings include the following instructions:

	YES	NO
Safe Work Practices?		
Safety Supervision & Enforcement?		
Tailgate Safety Meetings?		
Emergency Procedures?		
Incident Reporting?		
First Aid Procedures?		
Accident Investigation?		
New Employee Orientation?		

15. What safety programs and procedures do you require of your subcontractors?

_____

_____

_____

_____

Are these subcontractor safety programs and procedures integrated with your programs? YES ___ NO ___

If no, explain:_____

_____

16. Do you have a written Drug Policy? YES ___ NO ___

17. Do you have a drug screening program? YES ___ NO ___

If yes, does the program include:

1. Random sampling? YES ___ NO ___
2. All new hires? YES ___ NO ___
3. At the time of the accident? YES ___ NO ___
4. For "Near Miss" occasions? YES ___ NO ___

18. Would your company object to the drug screening of all personnel who are assigned to work at any of the HCC jobs? YES ___ NO ___

Submitted By: _____
Signature

_____
Typed or Printed

_____
Title

_____
Date

Safety Record Review and Contractor Approval

I, _____, (HSS hiring Supervisor) have reviewed the completed Contractor Safety Questionnaire for _____(name of Contractor). Through reasonable inquiries and based on the information provided by the contractor in the questionnaire, it is my recommendation that HSS should / should not (circle one) hire this contractor.

Hiring Supervisor	Date
Job EH&S Coordinator	Date
Job Manager	Date

Contractor Safety
Potential Hazard Notification Form

Project Title and Contract/P.O. No:	Pre-Construction Meeting Date:
Contractor's Name:	Scheduled Project Start Date:
Contractor's Safety Representative:	Contractor's Phone No.:
HSS Supervisor:	

Safety Considerations and Potential Hazards
(JSA)

Tasks	Hazards	Corrective Actions

I (Contractor's name) _____ understand that I am required to provide this information to my employees. I also understand that the hazard information presented to me is based on SRCE's understanding of the work location as it relates to their activities. I further understand that my (Contractor's) activities will require me to assess the work location and implement safety controls and procedures, as appropriate.

Signed: _____ Date: _____
HCC's Representative

Signed: _____ Date: _____
Contractor's Representative

Health & Safety Information Sheet

REGULATORY COMPLIANCE
The contractor is responsible for controlling the manner and methods of its operations and is directly responsible for the safety of its employees and subcontractor's employees and ensuring regulatory compliance. If the contractor's or its subcontractors' employees fail to comply with Federal, State, or local regulations, SRCE has the right to refuse inspecting and accepting the performed work until the issue is rectified to the satisfaction of HSS. Furthermore, violations may be referred to the appropriate regulatory agency(s).

HAZARDOUS MATERIAL USAGE
Before work begins, the contractor shall provide to HSS a hazardous material inventory and the corresponding Material Safety Data Sheets for all hazardous materials to be used during the construction process. Hazardous material inventories shall be submitted to the EH&S Coordinator.

Hazardous materials shall not be brought onto HSS property until approval is received. Contractors are required to strictly enforce container labeling. Labels shall identify substance, appropriate hazard warnings, and emergency procedures. Immediately report spills to the EH&S Coordinator.

HAZARDOUS WASTE DISPOSAL
Any hazardous waste generated as a result of contractor operations must be kept onsite and disposed through HSS, as we are liable for wastes generated on our site, whether by contractors or employees. No disposal of **any waste** is allowed on parking lots, grass, drains, sinks, toilets, etc.

EMERGENCY PROCEDURES
Contractor is responsible for reviewing the basic emergency procedures for the plant. This includes medical, fire and chemical spill procedures.

WORK BARRICADES
Work areas must be properly isolated from areas occupied by employees using appropriate barricades such as fencing, walls, etc. in order to keep HSS employees outside of the work zone. Signs must be posted stating that only authorized personnel are allowed in the work zone.

HOUSEKEEPING
Contractors are responsible for keeping the work area free and clear of hazards at all times. When the work is done, the work area must be left in a neat and clean condition.

SAFETY EQUIPMENT
Contractors are required to provide, operate and maintain their own safety equipment. Safety equipment includes, but is not limited to, lifelines, harnesses, scaffolding, respiratory equipment, gas detectors, welding shields, ventilation equipment, and personal protective equipment.

PERSONAL PROTECTIVE EQUIPMENT
The contract company and any of its subcontractors are required to provide proper PPE (hard hats, safety glasses, safety gloves, etc.) for their personnel.

Job Start Safety Meeting Checklist

Project Title and Contract No.	Pre-Construction Meeting Date:
Contractor's Name:	Scheduled Project Start Date:
Contractor's Safety Representative:	Contractor's Phone No.:
HSS Supervisor:	

	YES	NO	N/A	
1.				Confined space entry requirements have been reviewed with the contractor. The contractor understands that entry requirements are to be followed at all times.
2.				Hot work requirements have been reviewed with the contractor, and the contractor understands that these requirements are to be followed at all times.
3.				The contractor has been instructed to provide their employees with the information identified on the "Contractor Safety – Potential Hazard Notification" form and in the contract specifications.
4.				In accordance with regulatory requirements, the contractor is reminded to maintain written Health and Safety Program(s) at the work location (HazCom, confined Space, etc.)
5.				The contractor understands that SRCE will provide written notifications of non-compliance for non-compliant safety conditions created by the contractor's operation affecting SRCE or contractor personnel. "Notice of Non-Compliance Conditions" will not be provided for "perceived unsafe conditions" that are inherent to the nature of the work and that do not violate project specifications or OSHA guidelines. The contractor further understands that he/she is obligated to immediately address all non-compliant condition(s)
6.				The contractor has responsibility for the safety of all individuals who enter into the construction work site.
7.				Contractors are required to operate and maintain their own equipment (safety equipment, etc.) SRCE safety equipment will not be loaned to the contractor.
8.				The contractor has been given a copy of this checklist and the "Contractor Safety Potential Hazard Notification" form

Signed:_____ Date:_____

HSS Representative

Signed: _____ Date:_____

Contractor's Representative

Highline Steel Systems
Contractor Safety Briefing

Highline Steel Systems is dedicated to providing a safe working environment for our employees and contract personnel. All HSS Safety policies and procedures and OSHA regulations will apply at all times.

☐1. All contract personnel working in our facility are required to be trained in the work practices necessary to safely perform their job.

☐2. All contract personnel must "sign-in" when entering the plant and when leaving the plant for whatever reason, you must "sign-out."

☐3. Hard hats, safety eyewear with side shields, and ANSI-approved industrial safety footwear (steel toe) are required. Hearing protection is required in high noise areas. Shaded or tinted safety glasses are allowed in outside areas only (No exceptions). Shaded or tinted safety glasses are NOT allowed inside.

☐4. Shorts or cutoffs are not allowed while working. Tank tops/muscle shirts are not allowed. Some areas or jobs in the plant require long sleeves. Check with your supervisor if you have questions.

☐5. If there is any doubt as to the personal protective equipment required for a particular chemical, solvent, paint, etc., consult the Material Safety Data Sheet (MSDS) book. (Give locations of books.)

☐6. Any special safety equipment required for the job, such as safety belts/harnesses with lanyards, face shields, goggles, etc., will be furnished by the contractor. Only equipment without defects will be allowed. **When working aboveground and unprotected by guardrails, fall protection is required.**

☐7. **NO SMOKING** in any place other than designated areas.

☐8. Horseplay is strictly prohibited and will not be tolerated.

☐9. **Only authorized and necessary contract company vehicles are allowed within confines of plant**. Observe speed limit (5 mph) and watch for pedestrians. DO NOT leave vehicle running while unattended. DO NOT block fire hydrants, fire extinguishers, rescue air packs, building exits or plant exits.

☐10. Back-up/clearance guards are required when moving cranes, pickers, loaders, backhoes, gin pole trucks, and other vehicles in close areas. DO NOT leave vehicles running while unattended.

☐11. Use caution around working cranes, gin pole trucks, Backhoes, dozers, etc. Stand clear and allow room to operate. NO riding on the wheel fenders or buckets of backhoes.

NO riding the ball (up or down) of the crane. The swing of the crane must be barricaded off and unnecessary personnel are not allowed with this area.

☐12. OSHA-approved man baskets will be used on a case-by case basis if there is no other means of access.

☐13. Observe warning signs when work is being performed overhead and wear hard hats. DO NOT get under any suspended loads. Watch for any pinch points.

☐14. Check the condition of all-lifting cables, hoists and straps prior to use Replace any suspect or damaged cables, hoists or straps.

☐15. Lock-out/Tag-out of ALL energy sources is required of all personnel where the unexpected or accidental operation of a control device could cause injury to personnel or damage to equipment. Valves, switches or other control devices shall not be operated when safety locks or tags are in place. You must use a LOTO program that is compatible with HSS (explain HSS LOTO program).

☐16. Hot work permits are required for any welding, cutting, open burners or flames and operation of any spark producing powered tools when outside of designated hot work area.

Authorized plant personnel will issue permits and work WILL NOT BEGIN until the permit is issued and the requirements of 29 CFR 1910.252(a) “Fire Prevention and Protection” have been implemented.

Designated fire watch personnel will be knowledgeable in the use and operation of fire extinguishers, will remain at that post and will perform only that function for the duration of the job, and 30 minutes thereafter, until properly relieved.

Stainless steel welding requires protection from exposure. Protection could include ventilation, respirator, engineering practices or a combination of these.

☐17. Confined Space Entry Authorization is required for entry into any vessel or confined space. Authorized company personnel will issue this permit. <u>NO ENTRIES are allowed until permit has been issued.</u>

☐18. Hose line work units will be used when conditions warrant. Use of an attendant is required.

☐19. Beards and facial hair that extend into or on the sealing area of an SCBA or hose-line mask are not allowed if you will be wearing a respirator. This includes mustaches that extend down to the chin, flared sideburns, etc. Hair that extends past the shoulders will be controlled so as not to be a hazard around machinery, equipment or tools.

☐20. Anyone under the influence of, or in possession of alcoholic beverages, illegal drugs, or firearms is strictly prohibited form entering the property of HSS

☐21. Safe access must be provided in all excavations. A trained competent person is required to be present in all excavations.

☐22. Excavations greater than five feet deep must have an employee protection system in place. Shoring, shielding, or sloping may be used. A competent person must approve excavations prior to employee entry.

☐23. The knowledge of any known or possible hazard or unsafe condition should be reported immediately to Company personnel.

☐24. In the event of an emergency, gas leak, explosion or fire in the plant area, contract employees are to exit an angle into the wind away from the source area and then gather for a head count. Report any missing people to Company personnel. Note the wind direction from windsocks, flags or streamers. (Review plant Emergency Action Plan).

☐25. All accidents/injuries or near-miss incidents should be reported immediately or as soon as practical to contractor supervisor and Company personnel. Same shift-same day reporting is required.

☐26. If you are not sure of exactly what to do, ASK. **DO NOT** take the slightest risk and risk causing damage to property, other employees, or yourself.

☐27. Document any particular hazards or special instructions relating to the job(s) to be done.

☐ **Each contract employee must sign the contractor Safety Briefing sign-in sheet, and that sheet kept on file.**

Contractor Signatures

NOTICE OF SAFETY NON-COMPLIANCE

PROJECT NAME: _____ CONTRACT NO._____

CONTRACTOR: _____

Issued to Contractor's representative, _____
(name)

On_____ at _____An unsafe condition was observed in the

area of _____

_____

_____

HSS will not inspect work in this area until the unsafe condition is corrected. Any work done without inspection will be subject to rejection. If the unsafe condition is not immediately corrected, HSS may ask the contractor to stop the work.

_____
(HSS Supervisor)

Further action taken:_____

_____

_____

Unsafe Condition Resolved: Date:_____ Time:_____

Remarks:_____

_____

_____

(Company name)
(Address)

Subject: **Warning Letter for Safety Non-Compliance**

Reference: **Contract Number _____**
Project _____
Location _____

Dear _____:

Your firm has been found to be in violation of your contract by noncompliance with applicable Federal, State or company safety requirements.

On _____, 20 ___, in accordance with the OWNER'S Contractor Safety Adherence Policy, your site representative, _____, was given a Notice of Safety Non-Compliance (copy attached). This notice specifies areas where your company does not comply with Federal, State, local, or company safety requirements, and requests that these items be corrected immediately.

If these are not corrected, more stringent measures will be taken in accordance with OWNER'S Contractor Safety Adherence Policy.

Thank you for your attention to this matter.

Supervising Engineer

Attachment: Notice of Safety Non-Compliance

cc: Supervising Engineer
Job Manager
Manager of Environmental Safety and Health

(Company name)
(Address)

Subject: **Warning Notice of Temporary Job Suspension**

Reference: **Contract Number _____**
Project _____
Location _____

Dear _____:

Your company, while working on OWNER'S referenced project, has been notified of safety performance deficiencies in accordance with OWNER'S Contractor Safety Adherence Policy.

Despite these written notifications requesting that immediate corrective action be taken to improve your safety performance, improvement has not occurred.

Therefore, in accordance with action level two of the Contractor Safety Adherence Policy, we are hereby notifying you that after securing your equipment, all job activities on the project named above are to cease.

Activities on this project may be resumed only after your company meets the requirements set forth in the Contractor Safety Adherence Policy.

Sincerely,

Supervising Engineer

cc: Vice President Engineering
Operations Manager
Supervising Engineer
Job Manager
Manager of Environmental Safety and Health

Log of Changes		
Date	**Person**	**Change(s)**

Highline Steel Systems

Hot Work Program

1.0 Introduction

This program establishes written procedures to prevent fires resulting from temporary operations involving an open flame or ones that produce heat, sparks, or hot slag. This includes, but is not limited to brazing, cutting, grinding, soldering, thawing pipes, and welding. This program is established to meet OSHA's standards outlined in §1910.252.

2.0 Scope

This program applies to all Highline Steel Systems (HSS) employees and contractors who perform or supervise hot work activities at the plants. This program does not apply to plant areas that are specifically designed and equipped for hot work (e.g., designated welding areas).

3.0 Requirements

- When practical, objects to be welded, cut, or heated must be moved to a designated safe location (e.g., a designated welding area).
- If hot work must be performed, a Hot Work Permit must be obtained before the hot work can be performed.
- All precautions on the Hot Work Permit must be met prior to performing any hot work.
- The Hot Work Permit will be issued by the supervisor or their designee, and is valid only for the date and time specified on the permit.
- The white copy of the permit must remain at the job location until the hot work is completed. The pink copy is retained by operations. The yellow copy is retained by maintenance and becomes the "closing" document with required signatures.
- All personnel (employees, contractors, building occupants) must be suitably protected against hazards generated by the work (e.g., heat, sparks, fumes, welding rays). This may include, but is not limited to, the use of personal protective equipment, shields, screens, or local exhaust ventilation.

4.0 Prohibited Conditions

A Hot Work Permit will not be issued if **ANY** of the following conditions exist:

- Appropriate fire fighting equipment is not readily available.
- Combustible or flammable materials are within 35 feet and cannot be moved or protected.
- Floor and wall openings cannot be covered.
- Cutting or welding on pipes or other metals can conduct enough heat to ignite nearby combustible materials.
- Any condition that could result in undue hazards by performing the work.

5.0 Responsibilities

Job Management

- Provide support and resources for the program.
- Ensure that this program is implemented at the plant level.

Supervisors

- Ensure that all employees and contractors are following hot work procedures.
- Ensure that a hot work permit is issued prior to the start of work.
- Ensure that all cutting and welding equipment is in satisfactory condition and in good repair.

- Ensure that employees are suitably trained in the operation of the equipment.

EHS Coordinator
- Provide assistance with program implementation and administration.
- Provide assistance in training supervisors, employees, and contractors.

Employees
- Follow and use hot work procedures.
- Obtain a hot work permit prior to starting work.
- Ensure that all cutting and welding equipment is in satisfactory condition and in good repair.
- Attend and actively participate in training sessions.

Fire Watcher
- Ensure proper fire fighting equipment is readily available.
- Locate the nearest fire alarm pull station.
- Inspect hot work area before any hot work is conducted.
- Extinguish fire ONLY when within trained capabilities, otherwise, pull the fire alarm.
- Stay on watch at least 30 minutes after hot work has been completed.
- A Fire Watch is also REQUIRED whenever protective measures are necessary for the following conditions:
    1) Appreciable combustible material is within 35 feet of the point of operation.
    2) Appreciable combustibles more than 35 feet away may be easily ignited by sparks
    3) Wall or floor openings within 35 feet expose combustibles in adjacent areas, including confined spaces.
    4) Combustibles could be ignited by conduction or radiation through metal partitions, walls, ceilings, or roofs.

Outside Contractors
- Follow these hot work procedures when working at the plant.
- Discuss with hiring supervisor if has any concerns.

APPENDIX

Highline Steel Systems

HOT WORK PERMIT

ISSUED TO: _____ Date: _____

HOT WORK - any open flame, such as welding, cutting & burning, and use of portable spark or heat producing equipment in areas other than those designated as "hot work areas." White copy must be available at the job location until work is finished.

Covered Time Period _____

AREA _____

DESCRIBE WORK TO BE DONE: _____

	YES	NO	N/A
1. Have all process materials been removed from the equipment?.....			
2. Has vessel and attached piping been drained, steamed, cleaned and ventilated?.....			
3. Have lines been disconnected or blinded and locked and/or tagged out?.....			
4. If the work is overhead, is the area below the work barricaded?.....			
5. Is welding equipment spotted in a safe location?.....			
6. Is fire watchman posted and knowledgeable of responsibilities?.....			
7. Is cutting or welding elevated, so two fire watchmen are required?.....			
8. Is mechanical ventilation required?.....			
9. Have all lines been disconnected or blinded off?.....			
10. Has gas test been made?.....			
11. Is hose line breathing protection necessary?.....			
12. Is adjacent equipment safe against this work?.....			
13. Can sparks ignite material in vicinity?.....			
14. Is it safe to do this work?.....			
15. Have possible hazards and safety precautionsbeen discussed with all affected workers?			

16. Special precautions taken: (i.e. fire watch, spark shields, etc.) _____

PERMIT IS VOID IF PLANT OR AREA CONDITIONS BECOME UNSAFE

Initials	Permitted Conditions:					
Time						
% LEL	<10%					
H2S (PPM)	<10 ppm					
CO (PPM)	<50 ppm					
O_2 (%)	19.5%-23.5%					

SIGNED _____

(PERSON TESTING ATMOSPHERE)

I have personally inspected the work site and certify that all provisions of 29 CFR 1910.252(a), fire prevention and protection standard, are being complied with.

APPROVALS:

Worksite Supervisor: _____

Operations Supervisor _____

Maintenance Supervisor _____

White Original: Retained by Person Doing the Work Yellow carbon: Retained by Maintenance Pink:Retained by operations

Highline Steel Systems **CONFINED SPACE ENTRY AUTHORIZATION**

GENERAL INFORMATION **Permit No:** _____

Space to be entered: _____

Purpose of entry: _____

Duration of entry: Date: _____ to: _____ Time: _____ AM/PM

Type of Entry Condition
- ☐ NON-PERMIT
- ☐ PERMIT ALTERNATE**
- ☐ PERMIT REQUIRED

**The only real or potential hazard within the space is a hazardous atmosphere that can be controlled by continuous forced-air ventilation alone to maintain the space in a safe condition. Continuous forced-air ventilation is established in the space and will be maintained until the space has been evacuated and this authorization has been canceled.

PERMIT SPACE HAZARDS (Indicate specific hazards with initials)

_____ Oxygen deficiency (19.5%)
_____ Oxygen enrichment (>23.5%)
_____ Flammable gases or vapors (>0% LFL)
_____ Airborne combustible dust (>LFL)
_____ Toxic vapors and gases (>PEL)
_____ Engulfment
_____ Mechanical hazards
_____ Electrical shock
_____ Materials harmful to the skin

Other: _____

PREPARATION FOR ENTRY (Check all steps taken)

☐ Notify all affected departments of service interruption

ISOLATION METHODS:

☐ Steam / purge / clean
☐ Atmospheric test
☐ Pre-entry briefing on specific hazards and control method
☐ Notify contractors of permit and hazard conditions
☐ Blank/blind
☐ Lockout / tagout
☐ Inert
☐ Ventilate
☐ Barriers
☐ Other

ADDITIONAL PERMITS REQUIRED:

☐ Hot Work ☐ Safe Work ☐ Other

EMERGENCY SERVICE:

Name of service: _____ Phone Number: _____

Method of Contact: _____

EQUIPMENT REQUIRED FOR ENTRY & WORK

SPECIFY AS REQUIRED

Personal Protective Equipment: _____

Respiratory Protection: _____

Rescue Equipment: _____

Atmospheric testing / monitoring: _____

Gas analyzer calibration date: _____

Was gas analyzer "bumped" tested with a gas source to insure response: Yes ☐ No ☐

Analyzer Serial # _____

Other: _____

COMMUNICATION PROCEDURES:

To be used by attendants and entrants: _____

AUTHORIZED ENTRANTS (List by name)

_____

_____

_____

AUTHORIZED ATTENDANTS (List by name)

_____

_____

_____

Test Record	Prohibited Entry Conditions	Supplied Air Required	Test Time AM/PM	Test Time AM/PM	Test Time AM/PM	Test Time AM/PM	Test Time AM/PM
Oxygen-min	<19.5%	DO NOT ENTER					
Oxygen-max	>23.5%						
Flammability	>0% LEL						
H2S-max	>100 ppm	>10 ppm					
CO-max	>1200 ppm	>50 ppm					
SO2-max	>100 ppm	>2 ppm					
Dust-max	> PEL/lLFL	> PEL					
	Tester Initials						

CERTIFICATION: I certify that the atmospheric conditions inside this space have been checked and recorded all required precautions and preparations have been taken and necessary equipment is provided for safe entry into this space.

Testers Signature: _____ Date: Time:

ENTRY AUTHORIZATION APPROVED BY: (Indicate approval with signature)

Entry Supervisor: _____ Date: _____ Time: _____

Plant Mgr. / Designated Alternate: _____ Date: _____ Time: _____

CLOSURE: This space has been checked and found empty of occupants, tool and equipment and is approved for closure.

Entry Supervisor Signature: _____ Date: _____ Time: _____

Log of Changes		
Date	**Person**	**Change(s)**

Highline Steel Systems

Lock Out/Tag Out

1.0 Introduction:

It is the policy of Highline Steel Systems (HSS) to prevent a hazardous release of energy during all servicing, maintenance, and modification of equipment. This policy is implemented through the use of the Lockout/Tagout (LOTO) procedures described in this document. These procedures must be followed when it is necessary to service any equipment that may release any form of hazardous energy. The control of hazardous energy will be accomplished by locking and tagging out energy isolation devices and otherwise disabling equipment. All sources of hazardous energy must be controlled during the servicing of equipment. Examples of such energy include electrical, hydraulic, pneumatic, thermal, chemical, suspended parts, and any other form of energy that presents a hazard.

2.0 Purpose:

The purpose of this program is to establish procedures to protect employees from injury during the servicing of equipment by preventing unexpected energization. This program has been developed in accordance with the provisions of OSHA standard 29 CFR 1910.147, "Control of Hazardous Energy".

3.0 Scope:

This program applies to all HSS job sites.

4.0 Responsibilities:

4.1 Plant Manager

- Ensure that responsibilities assigned within this program are implemented.
- Monitor implementation of this program.
- Ensure adequate resources available to support this program.

4.2 Environmental Health & Safety Coordinator

- Assist in implementing the provisions of this program.
- Develop training materials related to this program.
- Assist in providing general LOTO training to employees.
- Maintain records in accordance with Section 17.2 of this document.
- Periodically audit and update the LOTO program as needed.

4.3 Department Heads and Supervisors

- Be thoroughly informed of the contents of this program and how it applies to their areas of responsibility and authority.
- Ensure employees comply with all provisions of the LOTO program.
- Identify all authorized employees under their supervision.
- Ensure employees receive general LOTO training.
- Provide training to employees on equipment-specific LOTO procedures within the department.
- Investigate all injuries and incidents involving LOTO.
- Ensure that employees are provided with sufficient locks, tags, and lockout devices.
- Complete annual LOTO inspections in accordance with Section 16.0 of this document.

• Take prompt corrective action when unsafe LOTO conditions or practices are observed.

4.4 Employees

• Comply with all provisions of the LOTO program.
• Attend LOTO training sessions as required.
• Promptly report any concerns related to LOTO to their immediate supervisor.

5.0 Definitions:

The following terms are defined in order to allow a better understanding of this program:

• **Affected employee:** An employee who is responsible for the operation of equipment on which servicing is being completed under LOTO conditions.
• **Authorized employee:** An employee approved to lock and tag out equipment in order to complete servicing on that equipment. An "authorized employee" and an "affected employee" may be the same person when the affected employee's duties include equipment maintenance or repair.
• **Capable of being locked out:** An energy isolation device is capable of being locked out if (1) it is designed with a hasp or other means of attachment to which a lock can be affixed; or (2) it has a locking mechanism built into it.
• **Energized:** Connected to an energy source or containing residual or stored energy.
• **Energy isolation device:** A mechanical device that physically prevents transmission of energy. Examples of energy isolation devices would include the following: a manually operated circuit breaker; an electrical disconnect switch; a line valve; and similar devices used to block or isolate energy. (**Note:** Push buttons, selector switches, and other control-circuit devices are not energy isolation devices).
• **Energy source:** Any source of electrical, mechanical, hydraulic, pneumatic, chemical, thermal, or other energy.
• **Lockout:** The placement of a lockout device on an energy isolating device which ensures that the energy isolation device and the equipment being controlled cannot be operated until the lockout device is removed.
• **Lockout device:** A device that utilizes a lock and key to hold an energy isolation device in the "SAFE" or "OFF" position and prevents machinery or equipment from becoming energized.
• **LOTO:** An acronym for "Lockout/Tagout".
• **Other employee:** An employee who is not directly responsible for the operation of equipment which is being serviced under LOTO conditions, but who is present in the immediate area of the servicing.
• **Servicing or service work:** Workplace activities such as constructing, installing, setting up, adjusting, inspecting, modifying, and maintaining machines or equipment.
• **Tagout:** The placement of a tagout device on an energy isolation device to indicate that the energy isolation device and the equipment being controlled may not be operated until the tagout device is removed.
• **Tagout Device:** A prominent warning device, such as a tag and a means of attachment, which can be securely attached to equipment for the purpose of alerting personnel not to operate an energy isolation device. Tagout devices are used to identify the authorized employee responsible for the servicing and the date of application.

6.0 Lockout vs. Tagout Concept:

6.1 During the servicing of equipment, each energy isolation device that is "capable of being locked out" will have a lock and a tag attached to it. Lockout in combination with tagout is the preferred method of energy isolation.

6.2 If an energy isolation device will not accept a lock, this is a "tagout" situation and tags alone should be securely attached to each isolation point. Tags are to be treated with the same respect as locks. They may never be bypassed or ignored and may only be removed by the employee who applied them.

7.0 Training and Authorization:

7.1 The level of LOTO training provided to employees is based on their level of involvement with LOTO procedures.

7.2 Each department is responsible for maintaining a master list of all authorized employees.

7.3 "Authorized employees" will be trained in the purpose and use of LOTO procedures, the recognition of hazardous energy sources, the types and magnitude of hazardous energy sources expected to be encountered, and the methods that are necessary for proper energy isolation and control.

7.4 "Affected employees" and "other employees" will be trained in the purpose of LOTO procedures. They will also be shown samples of the locks and tags used during LOTO procedures. They will be instructed not to remove locks or tags for any reason nor to attempt to energize equipment that is being serviced.

7.5 The EHS Coordinator is available to assist departments in providing general LOTO training to their employees.

7.6 Supervisors are responsible for training their employees on equipment-specific LOTO procedures.

7.7 Retraining will be provided to employees whenever there is a change in job assignments, processes, or equipment that creates a new hazard. Retraining will also be provided whenever there is a change in LOTO procedures.

7.8 Departments are responsible for maintaining a record of all LOTO training provided to their employees. The EHS Coordinator will maintain records of LOTO training provided by the EHS Coordinator.

8.0 Lockout/Tagout Supplies:

8.1 Locks

8.1.1 Each department is responsible for ensuring that an adequate supply of locks is available to authorized employees.

8.1.2 All locks shall be individually numbered and keyed. If duplicate keys exist for the same lock, an effective system must be established for management of the keys.

8.1.3 Locks and keys are for the exclusive use of the holder and may not be loaned to other employees for any reason.

8.2 Tags

8.2.1 Tags are to be used in conjunction with all locks, as appropriate.

8.2.2 Each department responsible for ensuring that an adequate supply of tags is available to authorized employees.

8.2.3 All tags must legibly indicate the user name and date of application.

8.2.4 All tags must be securely attached.

8.2.5 Tags must be capable of withstanding the environmental conditions to which they are exposed.

8.3 Lockout Devices

8.3.1 Lockout devices include such items as multiple lockout hasps, valve enclosures, circuit breaker lockouts, chains, plug enclosures, and other devices of this nature.

8.3.2 Each department responsible for ensuring that an adequate supply of lockout devices appropriate for the tasks encountered is made available to authorized employees.

8.3.3 Lockout devices must always be secured with a lock.

9.0 General Lockout/Tagout Procedure:

The following general steps will be taken by SRCE employees when locking and tagging out equipment:

9.1 Identify All Energy Sources: All electrical, hydraulic, pneumatic, and other energy sources feeding the equipment must be identified. Any questionable identification of energy sources should be clarified with supervision prior to beginning any service work.

9.2 Notify Others: The authorized employee completing the servicing must verbally notify all "affected" and "other" employees of the impending equipment shutdown.

9.3 Shutdown Equipment: If the equipment is running, it must be shutdown using the normal stopping procedures.
(**Example:** Depress "stop" button, open toggle switch, etc.)

9.4 Isolate Equipment from Energy Sources: Once the equipment has been shut down, all energy isolation devices must be operated so that the equipment is disconnected from its energy sources.

(**Example:** Turn electrical disconnects to "Off" or "Safe" position; open electrical circuit breakers; close hydraulic valves; close pneumatic valves, etc.)

9.5 Lockout/Tagout the Equipment: Locks and lockout devices must be attached to each energy isolation device in order to prevent the transmission of energy. A tag indicating the lock holder and the date of application must accompany each lock. A tag should also be placed near the equipment's point of operation if it is located remotely from the energy isolation device(s).

9.6 Release or Block Stored Energy: After the equipment has been isolated and locked/tagged out, all stored energy must be safely controlled. The appropriate bleeding or blocking methods must be used to dissipate stored energy sources (such as hydraulic pressure, pneumatic pressure, steam pressure, suspended parts, spring-driven parts, etc.).

9.7 Verify Isolation of Equipment: Prior to beginning any service work, the authorized employee must attempt to restart the equipment using the normal starting procedure or otherwise ensure the effectiveness of the lockout. Operational controls must be returned to the "Off" position after a restart attempt has been completed.

9.8 Perform Required Servicing: During the completion of service work, employees must avoid doing anything that could potentially reactivate the equipment.

9.9 Release from Lockout/Tagout: All locks, lockout devices, and tags must be removed by the same person who applied each item. Prior to restarting equipment, all tools must be removed from the work area and all machine guards must be in place. All "affected" and "other" employees must be verbally informed of the restart and cleared from the equipment area prior to energization.

10.0 Equipment-Specific Lockout/Tagout Procedures:

10.1 Each department is responsible for developing specific LOTO procedures for equipment serviced by their personnel.

10.2 Equipment-specific procedures shall identify the information that an authorized employee must know in order to effectively control hazardous energy sources. If this information is the same for various machines or equipment or if another means of logical grouping exists, then a single energy control procedure may be sufficient. The EHS Coordinator should be consulted when making the determination as to whether procedures can be grouped in this manner.

10.3 Records of equipment-specific LOTO procedures will be maintained by each department and will be available for review.

11.0 Interruption of Lockout/Tagout:

11.1 The following sequence of actions must be taken when equipment being serviced under LOTO conditions must be energized for testing or positioning:

- Clear the equipment of all tools and materials.
- Clear personnel from the equipment area.
- Remove any repositioning or blocking devices.
- Remove locks and lockout devices from energy isolation devices.
- Energize equipment and proceed with testing or positioning.

11.2 The equipment must be de-energized and locked/tagged out in accordance with Section 9.0 of this document if servicing is to continue after testing or positioning has been completed.

12.0 Group Lockout Procedures:

12.1 When more than one authorized employee is servicing a single piece of equipment, each employee must have their own lock and tag secured to each energy isolation device. This can be accomplished by utilizing a hasp designed to accept multiple locks.

12.2 During group lockouts, one group member shall be assigned responsibility for ensuring that all steps of the general LOTO procedure described in Section 9.0 are followed. This person shall attach a hasp to each energy isolation device. All employees involved in the servicing must then attach their own locks and tags to each hasp.

12.3 Employees shall remove their own locks and tags after they have completed their portion of the work. The group member referenced in Section 12.2 shall always remove their locks and tags last. Once this has been done, this same person is then responsible for ensuring the equipment is energized in accordance with Section 9.9.

12.4 Alternative group lockout procedures must be approved by the EHS Coordinator. Such procedures must afford all employees a level of protection equivalent to that provided by a personal lockout or tagout device.

13.0 Shift Change Coordination:

13.1 LOTO protection must not be interrupted when servicing lasts longer than one shift.

13.2 If the equipment is the sole responsibility of authorized employees on a single shift, locks and tags shall be left in place until the servicing is complete.

13.3 If it is necessary for servicing to continue into the next shift, the oncoming employee shall attach their locks and tags to each energy isolation device prior to the outgoing employee removing their locks and tags.

13.4 Alternative shift change procedures must be approved by EHS Coordinator. Such procedures must ensure continuity of LOTO protection for all employees.

14.0 Lock Removal Procedure:

14.1 If it becomes necessary to remove a lock when the owner is not available, the lock owner’s supervisor must be notified.

14.2 The supervisor may remove a lock ONLY after each of the following steps has been taken:

14.2.1. It has been verified that the lock owner is not at the work site.
14.2.2. Attempts have been made to contact the lock owner at home.
14.2.3. A determination has been made as to why the lock was applied.
14.2.4. Supervision or their direct designee has inspected the equipment and determined that the removal of the lock does not create a safety hazard.
14.2.5. Provisions have been made to notify the lock owner of the lock removal BEFORE they have returned to resume work on the equipment.

15.0 Contract Personnel:

15.1 Whenever contract personnel are to be engaged in activities covered by this program, the primary HSS contact and the contract employer shall inform each other of their respective LOTO procedures. The form found in Appendix A can be used to document compliance with this provision.

15.2 The exchange of LOTO procedures between HSS and the contract employer must take place before beginning any service activities subject to LOTO.

15.3 The primary HSS contact and the contract employer will ensure that their personnel understand and comply with one another's LOTO procedures.

15.4 Contract employers are responsible for ensuring that their personnel understand and comply with the requirements of OSHA standard 29 CFR 1910.147, "Control of Hazardous Energy".

16.0 Periodic Inspections:

16.1 Supervisors of authorized employees are responsible for completing periodic inspections on at least an annual basis in order to ensure adherence to the LOTO procedures described in this document.

16.2 LOTO inspections will be conducted using the checklist found in Appendix B.

16.3 Inspections will focus on correcting any deviations from HSS LOTO procedures.

16.4 Inspection records are to be maintained by the department and must be available for review.

17.0 Recordkeeping

17.1 Each department is responsible for maintaining the following records in order to meet the requirements of this program:

17.1.1 Records of all LOTO training provided to employees within the department.

17.1.2 A list of all authorized employees within the department.

17.1.3 Copies of all equipment-specific LOTO procedures developed within the department.

17.1.4 Copies of all LOTO Contractor Notification Forms (Appendix A) completed within the department.

17.1.5 Copies of all LOTO Inspection Checklists (Appendix B) completed within the department.

17.2 The EHS Coordinator is responsible for maintaining the following records in order to meet the requirements of this program:

17.2.1 Records of all LOTO training provided by the EHS Coordinator.

17.2.2 Records of any evaluations completed in order to assess the effectiveness of this program.

Appendix A

Contractor Notification Form

Contractor Notification Form
(Lockout/Tagout)

I,_____, (name of contractor) have reviewed the Highline Steel Systems company lockout/tagout procedures. These procedures were reviewed with my by_____ (name of HSS employee). I understand these procedures, and I will adhere to them during my work here at the plant. In addition, I understand that deviations from these procedures or failure to follow them **will** result in my removal from the plant site.

Contractor Printed Name	HSS Employee Printed Name
Contractor Signature	HSS Employee Signature
Date	Date

Appendix B

Lockout/Tagout Evaluation Checklist

Program Evaluation Form (Page 1 of 2)
(Lockout/Tagout)

Date _____/_____/_____ Machine/Equipment _____

Work Being Performed _____

Authorized Employees Conducting Work

_____
_____
_____
_____

Authorized Employees Inspecting

_____
_____
_____

(Explain all "N" and "N/A" answers)

1. Are all employees conducting work on the equipment trained as "Authorized Employees" under the lockout program? ☐ Y ☐ N ☐ N/A

2. Were all Affected Employees effectively notified before lockout? ☐ Y ☐ N ☐ N/A

3. Can the Authorized Employees identify all hazardous energy sources for the equipment? ☐ Y ☐ N ☐ N/A

4. Was the written lockout procedure used and followed? ☐ Y ☐ N ☐ N/A

5. Were all energy isolation points locked out by all employees working on the equipment? ☐ Y ☐ N ☐ N/A

6. Were all blocking and bleed down steps completed? ☐ Y ☐ N ☐ N/A

7. Was a "zero energy test" conducted to ensure isolation? ☐ Y ☐ N ☐ N/A

8. Are all locks, tags and other lockout devices of types approved by the lockout program? ☐ Y ☐ N ☐ N/A

Program Evaluation Form (Page 2 of 2)
(Lockout/Tagout)

Recommendations:	
Action:	Person Responsible:
Action:	Person Responsible:
Action:	Person Responsible:
Action:	Person Responsible:
Action:	Person Responsible:
Action:	Person Responsible:
Action:	Person Responsible:

Log of Changes		
Date	**Person**	**Change(s)**

Highline Steel Systems

Machine Guarding Safety Program

1.0 Introduction

The purpose of this written program is to prevent injuries that could be caused by any machine part, function, or process if it is not safeguarded. This may include points of operation, power transmission apparatuses, or other moving parts. The Occupational, Safety, and Health Administration (OSHA) requires guarding for machine parts, functions, or processes that may cause injuries. These requirements are found in 29 CFR 1910 Subpart O (§1910.211 – §1910.219)

2.0 Scope

This program applies to all HSS employees who work with machines, functions, or processes that require guarding.

3.0 Responsibilities

Job Management

- Provide support and resources for the program
- Ensure that this program is implemented at the job level

Supervisors

- Ensure operators do not remove or operate machine without safeguards
- Ensure operators follow the requirements of this program
- Provide machine/process specific hands-on training to all operators
- Ensure all machines/equipment are equipped with appropriate safeguards
- Provide personal protective equipment to operators

EHS Coordinator

- Provide assistance with program implementation
- Provide or assist in conducting machine safeguard assessments and audits
- Assist in selection of personal protective equipment and/or appropriate safeguards
- Develop and provide or assist machine guard training for affected supervisors and employees

Employees

- Operate machines with all safeguards in place and follow safety program requirements
-Wear proper PPE and follow logout/tagout procedures for maintenance and repair of equipment

4.0 General Safeguards Requirements

The following items should be taken into consideration when installing the safeguards.

Prevent contact: The safeguard must prevent hands, arms, and any other part of a operator's body from making contact with dangerous moving parts. A good safeguarding system eliminates the possibility of the operator or another worker placing parts of their bodies near hazardous moving parts.

Secure: Operators should not be able to easily remove or tamper with the safeguard because a safeguard that can easily be made ineffective is no safeguard at all. Guards and safety devices should be made of durable material that will withstand the conditions of normal use. They must be firmly secured to the machine.

Protect from falling objects: The safeguard should ensure that no objects can fall into moving parts. A small tool 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 such as a shear point, a jagged edge, or an unfinished surface that could cause a laceration. The edges of guards, for instance, should be rolled or bolted in such a way to eliminate sharp edges.

Create no interference: Any safeguard that impedes an operator from performing the job quickly and comfortably might soon be overridden or disregarded. Proper safeguarding may actually enhance efficiency since it relieves the operator's apprehensions about injury.

Allow safe lubrication: If possible, workers 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 operator to enter the hazardous area.

5.0 Specific Procedures

Below are the specific procedures that employees must follow when working on a piece of equipment or machine equipped with a safeguard.

5.1 Conduct a brief pre-startup inspection of the equipment and safeguards (e.g., electric cords, guards, blades, etc.)

5.2 Adjust the guard to fit each specific task

5.3 Must report to supervisor or take the initiative to replace missing or damaged guards

5.4 If the guard is missing or is damaged, place “Danger: Do Not Use” sign on the machine

5.5 Do not operate machine/equipment if it does not have necessary guards

5.6 Wear the appropriate PPE while operating the machine

5.7 Do not wear loose clothing or jewelry while operating the machine

5.8 De-energize (LO/TO) the equipment/machine prior to performing any maintenance or repair. Note that equipment with standard type electrical plug and cord can be unplugged and under the control of the operator to meet the de-energize requirement

5.9 After use, leave equipment or machine in good, clean, operating condition

6.0 Training

Even the most elaborate safeguarding system cannot offer protection unless the operator knows how to use it and why. Specific and detailed training is therefore a crucial part of any effort to provide safeguarding against machine-related hazards. Thorough operator training should involve instruction or hands-on training in the following:

- A description and identification of the hazards associated with particular machines
- The safeguards themselves, how they provide protection, and the hazards for which they are intended
- How to use the safeguards and why
- How and under what circumstances safeguards can be removed, and by whom (in most cases, repair or maintenance personnel only)
- What to do (e.g., contact the supervisor) if a safeguard is damaged, missing, or unable to provide adequate protection.

This training is especially necessary for new operators and maintenance or setup personnel, when any new or altered safeguards are put in service, or when operators are assigned to a new machine or operation.

Log of Changes		
Date	**Person**	**Change(s)**

Highline Steel Systems

Project Safety Program

1.0 Introduction

The purpose of this program is to ensure that environmental, health, and safety issues are taken into consideration for all maintenance and capital projects that are performed at Highline Steel Systems (HSS). Certain projects may not be required to meet all of the requirements that are outlined in this program because of their size and nature.

2.0 Hazard Control Hierarchy

The hazard control hierarchy below should be taken into consideration when designing the equipment. The use of personnel protective equipment should be the last option used. The order of precedence and effectiveness of hazard control is the following:

1. Engineering Controls.

2. Administrative Controls/Ergonomic Designs

3. Personal Protective Equipment.

Engineering Controls include the following:
• Elimination/minimization of the hazard—designing the facility, equipment, or process to remove the hazard, or substituting processes, equipment, materials, or other factors to lessen the hazard
• Enclosure of the hazard using enclosed cabs, enclosures for noisy equipment, or other means
• Isolation of the hazard with interlocks, machine guards, blast shields, welding curtains, or other means
• Removal or redirection of the hazard such as with local and exhaust ventilation.

Administrative Controls/Ergonomic Designs include the following:
• Written operating procedures, work permits, and safe work practices
• Exposure time limitations (used most commonly to control temperature extremes and ergonomic hazards)
• Monitoring the use of highly hazardous materials
• Alarms, signs, and warnings
• Training

Personal Protective Equipment
• When engineering controls are not feasible or do not totally eliminate the hazard
• While engineering controls are being developed
• When safe work practices do not provide sufficient additional protection
• During emergencies when engineering controls may not be feasible
(Note: Use of PPE should not be burdensome or a hindrance to performance.)

Use of one hazard control method over another higher in the control hierarchy may be appropriate for providing interim protection until the hazard is abated permanently. In reality, if the hazard cannot be eliminated entirely, the adopted control measures will likely be a combination of all three items instituted simultaneously.

3.0 Roles and Responsibilities

Project Leader
- Is responsible for the project from start to finish
- Provides leadership for the project and acts as the main contact for the project
- Provides the final signature on the Project Safety Checklist before startup can begin
- Ensures that a Safety Manager is assigned to the project

Safety Manager
- Esures that safety issues are being addressed and taken into account for project

Plant EHS Coordinator
- Reviews proposed project with Project Leader
- Provides safety inputs for project
- Assist plant personnel with performing JSAs for new tasks
- Most likely will be the Safety Manager on most projects

Department Heads/Supervisors
- Ensures that all personnel are trained in accordance with this program
- Ensures that personnel comply with HCC's Safety Program

4.0 Requirements

A pre-project meeting should be conducted prior to the Approval for Expenditure (AFE) being submitted. That way, any costs associated with safety requirements will get incorporated into the AFE. Key personnel to the project (e.g., Project Leader, Project Safety Manager) should also be indentified in the pre-project meeting.

The attached Project Safety Checklist shall be used for all projects. Note that the various tasks on the checklist can be completed without necessarily having to obtain all or any of the required signatures, and the tasks don't necessarily have to be completed in the order outlined in the checklist. However, all required signatures on the checklist must be obtained **before any startup** of the equipment can occur. As stated earlier, some of the requirements may not be applicable to certain projects because of their nature. Enter NA in the checklist if the requirement is not applicable. In cases where not all of the signatures can be obtained, the Vice President of Operations or the President has to sign off on the project before equipment startup can occur.

Instructions for Completing the Project Safety Checklist

1.1 Project planning completed?
Project planning includes the pre-project meeting among the key personnel (e.g., Project Leader, Plant personnel) who will be involved in the project. Costs related to safety should be identified in the pre-project meeting so that they can be incorporated into the AFE.

1.2 Ergonomics taken into consideration in design?
Ergonomics related issues should be taken into consideration in the project design. Questions that should be asked include: 1) Will personnel working on this process/equipment be performing repeated motions? If yes, can this lead to injuries over a prolonged period? 2) Can the process be mechanized to reduce or elimimnate manual labor? 3) Will this process/equipment require plant personnel to reach, twist, turn, or put their bodies in awkward positions that could lead to injuries?

1.3 Equipment designed with safety features?
The equipment should be designed with safety features, and examples of these include relief valves, machine guards, and shutoff valves/ensors.

1.4 Equipment designed to minize impact to environment?
The equipment should be designed to minimize air emissions, minize the usage of water, and the production of waste that has to be sent to a landfill. The design should include scenarios for both normal operations and non-normal operations (i.e., startup and shutdown of equipment, malfunction of equipment).

2.0 Has a process safety review been completed?
Process safety review can include a Hazardous Operations review. What are the minimin and maximum set points for the process/equipment ? What happens to the equipment/process if these set points are tripped? How will this affect other processes within the plant? Outside of the plant?

3.1 Have Job Safety Analyses (JSAs) been completed for project?
There could be multiple JSAs for a project. Once the JSAs are completed, the steps identified in the JSAs should be used to develop the operating/maintenance procedures.

3.2 List the PPE identified in the JSAs
Identify the personal protective equipment (PPE) that are noted in the JSAs. In most cases, this will be safety glasses, hard hats, and earplugs. If personnel working on the equipment/process is 6 feet or greater off the ground, then fall protection must be considered and addressed.

4.0 Have Operating procedures been written?
There could be multiple operating procedures for a project. The procedures should include normal operations and non-normal operations such as the startup, shutdown, and malfunction of the equipment.

5.1 Have Maintenance procedures been written?
Maintenance procedures should include lockout/tagout procedures, and other safety programs such as Hot Work Permitting and Confined Space.

5.2 Has the preliminary maintenance/drawings/parts list been transferred? Who transfers? Who receives?
This is to ensure that pertinent information related to the project is passed from Project Engineering to the Plant.

6.1 Training for Operations completed?
All plant personnel who are involved in operating the equipment needs to be trained.

6.2 Training for Maintenance completed?
All plant personnel who are involved in maintaining the equipment needs to be trained.

6.3 Training for Contractors completed?
We need to train and review the pertinent Safety Programs with any Contractor who will be working on the equipment. The pertinent Safety Programs may include Lockout/Taghout, Confined Space, and Hot Work Permitting.

7.0 Is there a startup plan?
The Startup Plan should include a schedule for the startup, the key personnel who will be responsible for the various aspects of the startup and their roles, and the completed Project Safety Checklist.

8.0 Name of key personnel who will be present during startup
List the names of key personnel who will be involved in starting up the equipment

Project Safety Checklist

Project Name/Description			
Plant Location			
Anticipated Project Startup Date			
Project Leader			
1.0 Project Planning			
1.1 Project planning completed?	YES	NO	
1.2 Ergonomics taken into consideration in design?	YES	NO	NA
1.3 Equipment designed with safety features?	YES	NO	NA
1.4 Equipment designed to minimize impact to environment	YES	NO	NA
2.0 Process Safety Review			
Has a process safety review been completed ?	YES	NO	NA
Department/person responsible for completing review			
3.0 Job Safety Analysis (JSA)			
3.1 Have JSAs been completed for project?	JSA(s) #:		NO
Department/person responsible for completing JSAs			
3.2 List the PPE identified in JSAs			
4.0 Operating Procedures			
Procedures have been written?	Date:_____ Procedure(s) #:		
Department/person responsible for writing the procedures			
5.0 Maintenance Procedures			
5.1 Procedures have been written?	Date:_____ Procedure(s) #:		
Department/person responsible for writing the procedures			
5.2 Has the preliminary maintenance/drawings/parts list been transferred? Who transfers? Who receives?			
6.0 Training			
6.1 Training for Operations completed?	Date training completed:		
Department/person responsible for providing training			
6.2 Training for Maintenance completed?	Date training completed:		
Department/person responsible for providing training			
6.3 Training for contractors?	Date training completed:		
Department/person responsible for providing training			
7.0 Startup Plan			
Is there a startup plan?	YES	NO	NA
Person responsible for providing the startup plan			
8.0 Personnel Present During Startup			
Name of key personnel who will be present during startup			
Required Signatures	Name	Signature	Date
Plant EHS Coordinator			
Project Safety Manager			
Project Electrical Engineer			
Plant Operations Superintendent			
Plant Maintenance Superintendent			
Plant Manager			
Project Leader			
VP of Operations or President			

Log of Changes		
Date	**Person**	**Change**

Highline Steel Systems

POWER INDUSTRIAL VEHICLES

1.0 Introduction

The purpose of this program is to protect the health and safety of all employees assigned to operate powered industrial trucks (e.g., fork lifts, yard dogs) and to comply with OSHA's requirements that are outlined in 29 CFR §1910.178.

2.0 Responsibilities

Department Heads and Supervisors

- Ensure that employees who operate powered industrial trucks in their departments have received the appropriate training.
- Provide observations and feedback to operators to ensure safe equipment operation.
- Ensure that the vehicles under their responsibility are properly inspected and maintained in a safe operating condition.
- Develop specific policies and procedures pertaining to the operation and maintenance of powered industrial trucks.
- Maintain the training certification records and performance tests of employees included in the training sessions.

EHS Coordinator

- Implement a training program based on the general principles of safe truck operation, the type of vehicle being used in the workplace, and the hazards of the workplace created by the use of the vehicle.
- Coordinate the training and performance testing of powered industrial truck operators.
- Periodically review the effectiveness of the program.

Employees

- Operate powered industrial trucks in a safe manner.
- Inspect powered industrial trucks at the beginning of each work shift before use.
- Report equipment defects and/or maintenance needs to their supervisors immediately.

3.0 Requirements

Truck Operations

1. A safe distance will be maintained from the edge of ramps or platforms while on any elevated dock, platform or freight car.

2. When leaving the truck unattended, the forks will be fully lowered, the controls placed in neutral, the power shut off, the brakes set, and the key or connector plug removed. The wheels will be blocked if the truck is parked on an incline. **Note:** A powered industrial truck is considered unattended when the operator is 25 feet or more away from the vehicle which remains in his/her view or whenever the operator leaves the vehicle and the truck is not in view.

3. The brakes of trucks, trailers and railroad cars will be set and wheel chocks or stops will be in place to prevent movement during loading or unloading operations. Fixed jacks may be necessary to support a semi-trailer during loading or unloading when the trailer is not coupled to a tractor. The flooring of trucks, trailers and railroad cars will be checked by the operator for breaks and weakness before driving these vehicles into these surfaces.

4. Fire doors, access to stairways, fire extinguishers and emergency exits will always be kept clear.

5. Powered industrial trucks will not be driven up to anyone standing in front of a bench or other fixed object.

6. No person will be allowed to stand or pass under the elevated portion of any truck, whether loaded or empty.

7. Passengers are not permitted to ride on powered industrial trucks unless authorized and the truck is equipped with a safe place for the passenger to ride.

8. The operator will never place his/her arms or legs between the uprights of the mast or outside the running lines of the truck.

Traveling

1. Traffic regulations will be observed, including observing all STOP SIGNS and authorized plant speed limits.

2. The operator will slow down and sound the horn at intersections and other locations where vision is obstructed.

3. If the load being carried obstructs forward view, the operator will travel in reverse with the load trailing.

4. Railroad tracks will be crossed diagonally whenever possible. Parking closer than 8 feet from the center of railroad tracks is prohibited.

5. Grades will be ascended or descended slowly.

6. The operator will slow down for wet and slippery floors.

7. Dockboards or bridgeplates will be properly secured before they are driven over and their rated capacity will never be exceeded. Dockboards or bridgeplates will always be driven over carefully and slowly.

8. Horseplay and stunt driving, including spinning of the tires, is not permitted.

9. Running over loose objects in aisleways will be avoided.

10. The operator will always look in the direction of travel and keep a clear view of the path of travel.

Loading/Stacking

1. Only stable and safely arranged loads will be handled.

2. Only loads within the rated capacity of the truck will be handled.

3. The forks will be placed under the load as far as possible and the mast carefully titled backward to stabilize the load.

4. The operator will remove unsafe containers and pallets from service.

5. Trucks equipped with attachments will be operated as a partially loaded truck when not handling a load.

6. The operator will insure there is always a safe distance between the mast and overhead lights, pipes and sprinkler systems.

4.0 Maintenance of Equipment

1. Powered industrial trucks will be inspected before being placed in service. This inspection will be made at least daily. Trucks used on a round-the-clock basis will be inspected after each shift. (Examples of inspection checklist can be found in Appendix A)

2. If at any time during the driver's shift a truck is found to be in unsafe, the operator will immediately notify his/her supervisor and remove the truck from service until it has been restored to safe operating condition.

3. Fuel tanks shall not be filled while the engine is running.

4. Spillage of excess oil or fuel will be carefully cleaned up and disposed off in accordance with state and federal regulations.

5. The operator will always wear the proper personal protective equipment when fueling the truck or performing any other maintenance on the truck.

6. No truck will be operated with a leak in the fuel system until the leak has been corrected.

7. Smoking is not allowed while changing LPG tanks, refueling gas powered trucks or changing or charging batteries for electric powered vehicles.

5.0 Training

1. Only employees who have successfully completed training in accordance with §1910.178(l) will be permitted to operate a powered industrial truck (an assessment of the operator’s knowledge can be found in Appendix C).

2. Training will consist of a combination of formal instruction (lecture, discussion videotape program written material) practical training (demonstrations performed by the trainer and practical exercises performed by the trainee), and evaluation of the operator's performance in the workplace.

3. Operator training and evaluation will be conducted by persons who have the knowledge, training, and experience to train powered industrial truck operators and evaluate their competence.

4. The formal (classroom) training will include a review/discussion of the following topics:

   - The factors that affect the stability of the truck.
   - The safe operation of powered industrial trucks.
   - Truck controls and instrumentation; where they are located, what they do and how they work.
   - The similarities and differences between powered industrial trucks and automobiles.
   - Steering and maneuvering.
   - The proper techniques of battery charging and refueling.
   - The inspection of powered industrial trucks.
   - Vehicle capacity.
   - Load manipulation, stacking and unstacking.
   - Pedestrian traffic in areas where the vehicle will be operated.
   -Narrow aisles and other restricted places where the vehicle will be operated.

5. Refresher training in relevant topics will be provided to the operator when:

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

6. An evaluation of each operator's performance will be conducted at least once every three years.

7. Training will be documented on the *Powered Industrial Truck Training Certification* form provided in Appendix B. The certification will contain each employee's name, the date of training and the name of the instructor.

6.0 Program Review

The EHS Coordinator will review and evaluate the effectiveness of this program when any of the following occurs:

1. On an annual basis.

2. When changes occur to the OSHA Powered Industrial Truck Standard that require a revision to this program.

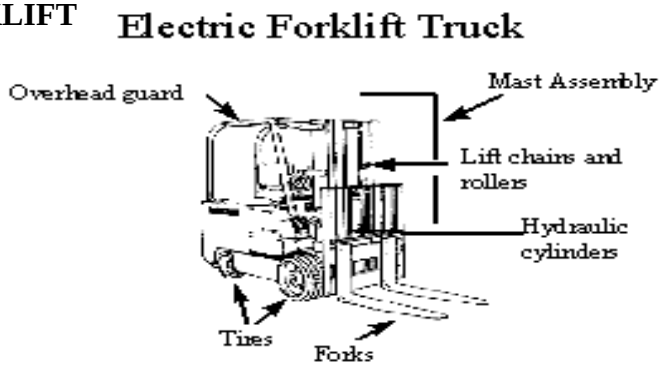
3. When changes occur to related procedures that require a revision.

4. When facility operational changes occur that require a revision.

5. When there is an accident or near miss that relates to this area of safety.

Appendix A-1

POWERED INDUSTRIAL TRUCK INSPECTION CHECKLIST
ELECTRIC FORKLIFT



TRUCK NO: _____

Hour meter Reading: _____

Check each item	Condition		Explain below if not OK
	OK	**Not OK**	
KEY OFF PROCEDURES			
Overhead guard			
Hydraulic Cylinders			
Mast assembly			
Lift chains and rollers			
Forks			
Tires			
Battery			
Hydraulic Fluid level			
KEY ON PROCEDURES			
Hour meter gauge			
Battery discharge indicator			
Steering			
Brakes			
Front, tail and brake lights			
Horn			
Safety seat			
Seat belts			
Load handling attachments			

Additional Remarks:

_____

_____

Inspected by: _____

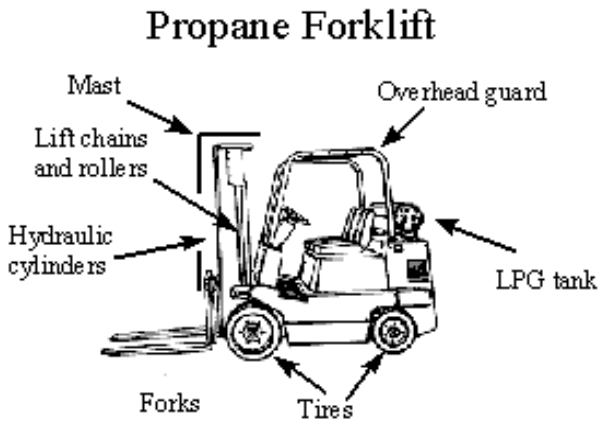
Date: _____

Appendix A-2

POWERED INDUSTRIAL TRUCK INSPECTION CHECKLIST
PROPANE FORKLIFT

TRUCK NO: _____

Hour meter Reading: _____



Check each item	Condition		Explain below if not OK
	OK	**Not OK**	
KEY OFF PROCEDURES			
Overhead guard			
Hydraulic Cylinders			
Mast assembly			
Lift chains and rollers			
Forks			
Tires			
LPG Tank and Locator pin			
LPG tank hose			
Gas gauge			
Battery			
Hydraulic Fluid level			
Engine oil level			
Engine coolant level			
KEY ON PROCEDURES			
Front, tail and brake lights			
Oil pressure indicator lamp			
Ammeter indicator lamp			
Hour meter			
Water temperature gauge			

Check each item	Condition		Explain below if not OK
	OK	**Not OK**	
KEY ON PROCEDURES			
Steering			
Brakes			
Horn			
Safety seat (if equipped)			
Load handling attachments			
Transmission fluid level			

Additional Remarks:

_____

_____

Inspected by: _____

Date: _____

Appendix B

Powered Industrial Truck
Training Certification

Date: _____

Instructor: _____

Type(s) of Vehicle(s): _____

Operator's Name (Print)	Location/Department

APPENDIX C

SELF-ADMINISTERED WRITTEN TEST FOR POWERED INDUSTRIAL TRUCK OPERATORS

Name_____ Date _____

Indicate whether the statement is true (T) or false (F)

1.	A lift truck operator must always be able to clearly see where he/she is going regardless of the size or shape of the load.
2.	Forks should always be raised a short distance off the ground when traveling with a load.
3.	Quick starting and stopping are good operating practices.
4.	It is unsafe to carry loads that weigh more than the rated capacity of the truck
5	A forklift truck turns in exactly the same manner as an automobile
6	It is the lift truck operator's responsibility to watch out for lights, sprinklers heads, etc., which may cause overhead clearance problems.
7	A good driver will develop the habit of making fast, sharp turns.
8.	It is okay to carry an extra passenger on your truck if you have him/her sit behind you
9.	You should never leave your truck when the engine is running.
10	Since housekeeping is not a lift truck operator's responsibility, he/she should just drive right through any oil patch he might find on the floor and not report the hazard.
11	Carrying loads that weigh more than the capacity of the truck is not permitted.
12	Forks should be used only for picking up loads - not for pushing, shoving or ramming.
13	A load should be kept well back against the carriage and properly centered on the forks.
14	A driver need not worry about the rear end swing of his truck when turning a corner
15	The same weight can be lifted with the tips of the fork as can be lifted when the forks are positioned all the way under the load.
16	You may have people stand on the counterweight of your truck so that you can lift a load that weighs more than the rated capacity of the truck.
17	Always drive forward up steep ramps to avoid spilling your load.
18	It's okay to have your arm or leg outside the running lines of the truck if there are not obstacles in the work area.
19	To save your brakes, you should downshift the transmission on your truck whenever possible.
20	A safe distance under normal conditions is approximately one truck length from the truck ahead
21	It's okay to smoke when refueling as long as you don't see or smell any fuel leaking.
22	If the lift mechanism on your truck makes an unusual noise, you should tell your supervisor about it at the end of the day.
23.	Other workers may stand or pass under the elevated portion of your truck to help guide you when you are stacking a load.
24.	Your powered industrial vehicle should be thoroughly inspected at the beginning of the shift.
25.	You should never drive your truck up to anyone standing in front of a bench or other fixed object.

Deductions: *(4 points for each incorrect or missing answer*)
Final Score: *(100 points less all deductions*)
Passing Score: ***(70 points)***

FINAL SCORE _____

_____ _____
(Instructor's Signature) (Date)

ANSWER SHEET TO WRITTEN TEST FOR
POWERED INDUSTRIAL TRUCKS OPERATORS

QUESTION 1. TRUE
QUESTION 2. TRUE
QUESTION 3. FALSE
QUESTION 4. TRUE
QUESTION 5. FALSE
QUESTION 6. TRUE
QUESTION 7. FALSE
QUESTION 8. FALSE
QUESTION 9. TRUE
QUESTION 10. FALSE
QUESTION 11. TRUE
QUESTION 12. TRUE
QUESTION 13. TRUE
QUESTION 14. FALSE
QUESTION 15. FALSE
QUESTION 16. FALSE
QUESTION 17. TRUE
QUESTION 18. FALSE
QUESTION 19. FALSE
QUESTION 20. FALSE
QUESTION 21. FALSE
QUESTION 22. FALSE
QUESTION 23. FALSE
QUESTION 24. TRUE
QUESTION 25. TRUE

Highline Steel Systems

Drug and Alcohol Policy

It is against Highline Steel Systems policy for an employee or contractor to be under the influence of, use, sell, transfer, manufacture, or possess alcohol, narcotics, depressants, stimulants, hallucinogens, marijuana, or other dangerous drugs when reporting for work, while working, or while on Highline Steel Systems job sites.

At the expense of the contractor, and as permitted by law, drug and alcohol tests are required by the company for:

a. Pre-employment
b. All Accidents resulting in injury
c. Safety sensitive positions
d. Reasonable suspicion
e. Random testing

Any employee or contractor who refuses to submit to testing will be removed from the job site.

Any employee who tests positive for drugs and or alcohol will be deemed as unable to safely perform the job and will be removed from work.

As permitted by law, sub-contractors are responsible and will arrange the necessary release of drug and alcohol test results to Highline Steel Systems.