ACCIDENT PREVENTION
and
SAFETY PROGRAM

For
JRC Incorporated

CONSTRUCTION INDUSTRY

09/01/2017

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INTRODUCTION

JRC, Inc., believes the personal safety, health and well-being of our employees and subcontractors is of primary importance. The prevention of work related illnesses and injuries are such consequence that it will be given precedence over productivity, schedule and cost. To the degree possible, we will provide the time, training, materials, and resources required for your personal safety and health as well as the protection of the job. You as an employee or sub-contractor have the same obligation.

We will adhere to known standards and procedures to achieve no lost time accidents or injuries.

Kirk Johnson CEO

GENERAL INSTRUCTIONS

A. Overview

Industrial injuries create a no-win situation for everyone involved. Employees experience pain, suffering and incapacitation while the company suffers from the loss of the injured person's contributions. This document is designed to assist all personnel in assuring that such an undesirable situation will not develop in this company. It provides information and guidance for the establishment and maintenance of an injury-free work environment.

B. Procedures

This document contains guidance for safety procedures to be followed and forms to be used. Supervisors are expected to integrate the procedures into the appropriate work activity and employees are expected to apply them on the job. The forms found in appendixes are to be used if they apply to the job concerned.

C. Dissemination

A copy of this statement will be issued to all supervisory and management personnel. A copy of the policy statement will be posted on company safety and health bulletin boards.

COMPANY POLICY LETTER

SAFETY AND HEALTH POLICY FOR: JRC Incorporated

The purpose of this policy is to develop a high standard of safety throughout all operations of JRC Incorporated and to ensure that no employee is required to work under any conditions, which are hazardous or unsanitary.

We believe that each employee has the right to derive personal satisfaction from his/her job and the prevention of occupational injury or illness is of such consequence to this belief that it will be given top priority at all times.

It is our intention here at JRC Incorporated to initiate and maintain complete accident prevention and safety training programs. Each individual from top management to the working person is responsible for the safety and health of those persons in their charge and coworkers around them. By accepting mutual responsibility to operate safely, we will all contribute to the well-being of our employees.

Kirk E. Johnson, CEO

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JRC Incorporated

RESPONSIBILITIES

Responsibilities for safety and health include the establishment and maintenance of an effective communication system among workers, supervisors and management officials. To this end, all personnel are responsible to assure that their messages are received and understood by the intended receiver. Specific safety and health responsibilities for company personnel are as follows:

A. Management Officials

Active participation in and support of safety and health programs is essential. Management officials will display their interest in safety and health matters at every opportunity. At least one manager (as designated) will participate in the safety and health committee meetings, incident investigations and inspections. Each manager will establish realistic goals for implementing instructions for meeting the goals. Goals and implementing instructions shall be within the framework established by this document. Annual performance evaluations conducted by management will include employee safety performance, including incidents, accidents, injuries and recommendations.

Chief Production Officer

The Chief Production Officer shall be responsible for providing the personal knowledge, leadership and guidance necessary to ensure the implementation and compliance with the safety program.

The Chief Production Officer shall review inspection reports, accident reports, near miss reports, injury reports, supervisory safety reports, and other documentation to maintain a working knowledge of the safety activities on their jobsites. It is his/her responsibility to see that the program as established by management is carried through on our projects.

Project Managers/Construction Supervisors will respond to any recommendation submitted by our safety consultant or insurance carrier. A copy of this response will be sent to management.

Quality Control Officer/Divison Manager

The Quality Control Officer/Division Manager is responsible for knowing the requirements of our safety program and reinforcing our rules whenever he/she visits a project. The Quality Control Officer will be copied on the results of all safety inspections and accident investigations.

B. Supervisors

The safety and health of the employees they supervise is a primary responsibility of the supervisors. To accomplish this obligation, supervisors will:

1. Assure that all safety and health rules, regulations, policies and procedures are understood and observed.
2. Require the proper care and use of all required personal protective equipment.
3. Identify and eliminate job hazards quickly through job safety analysis procedures. (See the sample Job Safety Analysis form attached to this document.)
4. Inform and train employees on the hazardous chemicals and/or procedures they MAY encounter under normal working conditions or during an emergency situation. (See the sample hazard communication program.)
5. Receive and take initial action on employee suggestions, awards or disciplinary measures.
6. Conduct crew/leader meetings the first five minutes of each work shift to discuss safety and health matters and work plans for the workday.
7. Conduct walk-around safety inspections at the beginning of each job, and at least weekly thereafter.
8. Train employees (new and experienced) in the safe and efficient methods of accomplishing each job or task as necessary.
9. Review injury trends and establish prevention measures.
10. Attend safety meetings and actively participate in the proceedings.
11. Participate in incident investigations and inspections.
12. Promote employee participation in the safety and health program.
13. Actively follow the progress of injured workers and display an interest in their rapid recovery and return to work.

C. Employees

The all-important goal of this Safety Program is the protection of employees. To accomplish this goal, it is necessary that the employees become involved in the Safety Program and give it their total cooperation. Some of the general rules that apply to all employees are listed below.

1. No employee shall report to work in an intoxicated condition.

2. The introduction, possession, or use of intoxicating beverages, or narcotics on the jobsite is strictly prohibited. (See Substance Abuse Policy/Program)
3. Carrying firearms or explosives on the jobsite without proper company authorization or other violation of any local, state or federal law on company premises is prohibited.
4. Employees must be properly attired for work being performed in accordance with the

Occupational Safety and Health Administration requirements. In accordance with this item, shirts must be worn at all times. Sandals or other inadequate foot protection will not be allowed.

5. No unauthorized person may operate any equipment, including trucks.
6. No person other than the authorized operator is allowed to ride on any piece of equipment.
7. No person may ride in or on any vehicles other than on seats constructed for carrying personnel.
8. Employees may park personal vehicles only in areas designated by the supervisor or foreman.
9. Reckless driving on the site and other acts of indifference and disregard of safety rules will not be tolerated.
10. All employees are required to report all injuries, illnesses and near misses (incidents) to their supervisor or foreman immediately.
11. Striking anyone on the jobsite, with open hand, fist, or object, or engaging in any type of physical altercation with any employee or otherwise threatening intimidation, coercing or interfering with another employee's work is strictly prohibited.
12. Stealing, embezzlement, dishonesty, falsification of records, including but not limited to employment applications or other willful misrepresentation of facts will not be permitted.
13. Gross negligence, gross carelessness or willful acts which result or could result in damage to company property or equipment, and/or injury to other employees will not be tolerated.
14. All employees are required to report any unsafe conditions or practices to their supervisor or foreman.
15. Employees must use all safety devices provided for their protection.
16. Hard hats shall be worn when working below other trades on our projects.
17. Good housekeeping depends upon everyone's cooperation. Keep alert for protruding nails, wire, tools, and loose objects under foot. Take a minute to keep your area in a safe condition for yourself and for your fellow workers.

18 Harassment in any form (sexual, racial, etc.) on the part of supervisors or employees will not be allowed.

These rules are for your safety and well-being on the jobsite, as well as for proper job management. Although the overriding guide to safety on the jobsite is the OSHA 1926 Standards, these rules are included in this program for emphasis. Project Managers/Construction Supervisors are empowered to implement additional safety rules they feel are needed for the protection of workers on their jobsite. Additional safety suggestions will be given full consideration and are encouraged.

Safety Disciplinary Policy

JRC Incorporated believes that a safety and health Accident Prevention Program is unenforceable without some type of disciplinary policy. Our company believes that in order to maintain a safe and healthful workplace, the employees must be cognizant and aware of all company, State, and Federal safety and health regulations as they apply to the specific job duties required. The following disciplinary policy is in effect and will be applied to all safety and health violations.

The following steps will be followed unless the seriousness of the violation would dictate going directly to Step 2 or Step 3.

1. A first time violation will be discussed orally between company supervision and the employee. This will be done as soon as possible.

2. A second time offense will be followed up in written form and a copy of this written documentation will be entered into the employee's personnel folder.

3. A third time violation will result in time off or possible termination, depending on the seriousness of the violation.

Planning and Organization

A. Preparation of the Estimate

Include a realistic sum of money for safety requirements in accordance with conditions, safety policies, and owner and regulatory requirements.

B. Sub-Contractors

Management will provide a copy of this program to subcontractors bidding on work for JRC, Inc. so they will have a clear understanding of our safety requirements on projects.

C. Pre-job Planning

Hold planning meeting soon after successful bid to discuss:

1. Owner, regulatory agency, and JRC, Inc. safety requirements.

2. Hazards and control measures involving project employees, equipment and materials.
   a. Personal protective equipment required.

b. Fall protection procedures

c. Equipment safety devices.

d. Maintenance procedures.

e. Jobsite security

f. Material storage, handling and security.

g. Ladders, scaffolds, etc.

h. First aid and medical requirements including locating nearest clinic or hospital.

i. Traffic patterns, road layout and designated parking areas.

j. Sanitary requirements.

3. Hazards and control measures involving members of the public and/or their property.

a. Public vehicular traffic exposure--need of signs, barricades, flashers, detours, etc.

b. Public, pedestrian and children--need for temporary walkways, overhead protection, fencing or other methods of protection and denial of access.

c. Utilities--underground and overhead--locating and marking. Ensure that our operations will not expose our workers to energized electric lines.

d. Control of water run-off and planning for possible flooding conditions.

D. Job Start up Procedures

1. Planning and Organization

a. Have medical facilities been located and coordinated with to provide expeditious treatment of injured workers and provide drug testing.

b. Has ordered safety equipment been received?

c. Any special conditions that would affect safety requirements.

d. Notification utility companies.

e. Assure that all pertinent reports, records, federal forms and posters are properly secured.

f. Set up employee bulletin board. At a minimum, the board must have all mandated posters required by the Department of Labor and the EEOC.

2. Safety Inspections on Equipment

a. Verify if equipment has been inspected prior to coming on jobsite. If not, arrange for inspection.

b. Inspect rented equipment to be sure that it meets JRC, Inc.'s standards.

3. Housekeeping

The first impression that the public will get of JRC, Inc. will probably result from the appearance of our work area. An organized, clean and orderly work area gives the impression of professionalism. Plan storage areas, offices, and parking with orderliness in mind. Instances of disorder are usually the result of following the lines of least resistance and of poor organization. Good housekeeping at all times on all jobs shall be top priority.

E. Visitors

Visitors shall be required to register at the job office prior to entering into the project. Unless visitors have a valid reason for going into the work areas, they should be refused permission. If visitors are allowed on the jobsite, they must be required to wear proper safety equipment.

Company Fleet Policy

1. No company vehicles or equipment will be loaned to anyone including employees of JRC, Inc. without the personal approval of Management.
2. Only JRC, Inc. employees will operate company vehicles and/or equipment.
3. Employees operating company vehicles must have a valid driver's license.
4. The driver is responsible for the safety of passengers and cargo stability.
5. Seat belts will be worn at all times.
6. Obey all speed limits and other traffic signs.
7. Motor must be shut off during refueling.
8. Personnel may not ride in the bed of any truck.
9. A flagman should direct the backing of a vehicle in a congested area.
10. Motor Vehicle Records will be checked on all drivers of company vehicles.
11. Any motor vehicle moving violations such as a speeding fine will be at the expense of said violator.
12. Any use of mobile phones must be done with a hands free device.
13. There is no texting or emailing permissible while driving a motor vehicle.

Procedure for Injury or Illness on the Job

A. Supervisor immediately takes charge

1. Supervise and administer first aid as you wish (Good Samaritan Law applies).
2. Arrange for transportation (ambulance, helicopter, company vehicle, etc.), depending on the seriousness of the injury. Protect the injured person from further injury.
3. Notify management, if not already present.
4. Do not move anything unless necessary, pending investigation of the incident.
5. Accompany or take injured person(s) to doctor, hospital, home etc. (depending on the extent of injuries).
6. Take injured person to family doctor, if available.
7. Remain with the injured person until relieved by other authorized persons (manager, EMT, doctor, etc.).
8. When the injured person's immediately family is known, the owner or supervisor should properly notify family members, preferable in person, or have an appropriate person do so.

B. Documentation

1. Minor injuries – requiring doctor or outpatient care: After the emergency actions following an injury, an investigation of the incident will be conducted by the immediate supervisor and any witness to determine the causes. The findings must be documented on our investigation form.

2. Major injuries – fatality or one or more hospitalizations: Management must see that the Department of Labor and Industries is notified as soon as possible, but at least within 8 hours of the incident. Call or contact in person the nearest office of the Department or call the OSHA toll free central number (1-800-321-6742). Management will then assist the Department in the investigation.

3. The findings must be documented on our incident investigation report form and recorded on the OSHA 300 log, if applicable. (Sample incident investigation report form included in this document.)

C. Near Misses

1. All near-miss incidents (close calls) must be investigated.

2. Document the finding on the company incident investigation report form.

3. Review the findings at the monthly safety meetings or sooner if the situation warrants.

Basic Rules for Accident Investigation

- The purpose of an investigation is to find the cause of an incident and prevent future occurrences, not to fix blame. An unbiased approach is necessary to obtain objective findings.

- Visit the incident scene as soon as possible – while facts are fresh and before witnesses forget important details.

- If possible, interview the injured worker at the scene of the incident and "walk" him or her through a re-enactment. Be careful not to actually repeat the act that caused the injury.

- All interviews should be conducted as privately as possible. Interview witnesses one at a time. Talk with anyone who has knowledge of the incident, even if they did not actually witness the mishap.

- Consider taking the signed statements in cases where facts are unclear or there is an element of controversy.

- Graphically document details of the incident: area, tools, and equipment. Use sketches, diagrams, and photos as needed, and take measurements when appropriate.

- Focus on causes and hazards. Develop an analysis of what happened, how it happened, and how it could have been prevented. Determine what caused the incident itself (unsafe equipment/condition, unsafe act, etc), not just the injury.

- How will you prevent such incidents in the future? Every investigation should include an action plan.

- If a third party or defective product contributed to the incident, save any evidence. It could be critical to the recovery of the claim costs.

Use Incident Investigation Report Form to write up accident investigation report.

SAFETY BULLETIN BOARD

A. Purpose: To increase employee's safety awareness and convey the company's safety message.

B. The following items are required to be posted:

1. Tennessee Worker's Compensation Insurance Posting Notice

2. OSHA Job Safety and Health – It's The Law

3. TOSHA Right to a Safe and Healthful Workplace – It's the Law

C. Suggested Items:

1. Safety and health posters
2. Minutes of crew/leader safety meetings
3. Date, time, and place of next safety meeting
4. Information about any recent incidents
5. Safety awards/employee recognition
6. Hazard communication information
7. Pertinent safety concerns, news clippings and other off-the-job items that may be of significant importance to employees.

FIRST AID TRAINING, KITS, AND POSTER

A. Purpose: To afford the employees immediate and effective attention should an injury result, JRC Incorporated will ensure that a certified first aider(s) will be available.

1. To meet the above objectives, the following procedures will be followed:

   a. All supervisors or persons in charge of crews will be first aid trained unless their duties require them to be away from the jobsite. If so, other persons who are certified in first aid will be designated as the recognized first aider.

   b. Other persons will be trained in order to augment or surpass the standard requirements.

   c. Valid first aid cards are recognized as ones that include both first aid and cardiopulmonary resuscitation (CPR) and have not reached the expiration date.

2. First aid training, kits, and procedures will be in accordance with the requirements of the general safety and health standards.

   a. First aid kit locations at this jobsite include:

      1. Supervisor / Project Manager Company Vehicle

   b. Project Supervisor/Manager is designated to ensure that the first aid kits are properly maintained and stocked.

3. Posters listing emergency numbers, procedures, etc., will be strategically located, such as on the first aid kit, at telephones, and in other areas where employees have easy access.

FIRST AID PROCEDURES IN CONSTRUCTION

We have first aid qualified workers here but we do not have “designated” first-aiders. First aid at the job site is done on a Good Samaritan basis.

If first aid trained personnel are involved in a situation involving blood, they should:

1. Avoid skin contact with blood/other potentially infectious materials by letting the victim help as much as possible, and by using gloves provided in the first aid kit.

2. Remove clothing, etc. with blood on it after rendering help.

3. Wash thoroughly with soap and water to remove blood. A 10% chlorine bleach solution is good for disinfecting areas contaminated with blood (spills, etc.).

4. Report such first aid incidents within the shift to supervisors (time, date, flood presence, exposure, names of others helping).

Hepatitis B vaccinations will be provided as soon as possible but not later than 24 hours after the first aid incident.

If an exposure incident occurs, we will immediately make available appropriate:

1. Post exposure evaluation

2. Follow-up treatment

3. Follow-up as listed in Occupational Exposure to Bloodborne Pathogens.

Training covering the above information should be conducted at job site safety meetings.

Return to Work

JRC Incorporated's Return to work policy is a Transitional Employment program. This program is designed to be a personalized, monitored program based on type of injury or illness. Injured or ill employees will be afforded temporary, adjusted responsibilities suited to your health needs. HR Manager will administer this program and can provide more information.

WORK CREW SAFETY MEETINGS

We believe that hard work and perseverance are required for the prevention of injuries and illnesses, with the crew leader being the key to a successful result.

A. Purpose: To assist in the detection and elimination of unsafe conditions and work procedures.

B. Procedures:
The following guidelines will be followed:

a. These meetings are held at the beginning of each job and at least weekly thereafter, according to the various circumstances involved or when necessary to clear working procedures. No set pattern will suit all cases. It is important that the crew leader talk daily on injury prevention and immediately upon witnessing an unsafe act.
b. The attendance and subjects discussed will be documented and maintained on file for one year.
c. Copies of the minutes will be made available to the employees by posting or other means.

C. Scope of Activities:
(certain employees, as may be designated by their supervisors, will assist)
1. Conduct in-house safety inspections with supervisor concerned.
2. Investigate incidents to uncover trends.
3. Review incident reports to determine means or elimination.
4. Accept and evaluate employee suggestions.
5. Review job procedures and recommend improvements (Job Safety Analysis Form is available in the Appendix)
6. Monitor the safety program effectiveness.
7. Promote and publicize safety.

D. Documentation: The sample form in the appendix is available to assist in documenting activities of crew/leader meetings. There is also a Safety Meeting Notice form that you can print out and copy to announce your next safety meeting.

Construction Safety Meeting Suggestions

(The supervisor's guide)

Twelve good topics for construction safety meetings:

1. Fall protection/fall prevention

2. Personal protective equipment
    a. Hard hats
    b. Eye protection
    c. Hearing protection
    d. Footwear
    e. Safety harness/belts
    f. Respiratory protection

3. Housekeeping

4. Tool inspection

5. Emergency procedures

6. Electrical safety

7. Ladder safety

8. Scaffold safety

9. Fire prevention/fire extinguishers

10. Reporting injuries and unsafe conditions

11. Confined spaces

12. Lock-out procedures

13. Heat Stress

How to hold a *good* safety meeting

1. Be certain everyone knows the time and place of the next meeting. You may use the sample form on the next page if you wish.

2. Insist that everyone attend. Before the next meeting, remind those who were late or failed to attend that **attendance is not optional**.

3. Pick an appropriate topic. If you can't think of an appropriate topic, use one from the attached list (these usually apply to all projects).

4. Start the meeting on time.

5. Don't waste time – give the meeting your undivided attention.

6. Discuss the topic you have chosen and prepared. Don't wait until the meeting to choose your topic.

7. Use handouts or posters to illustrate your topic.

8. Discuss current job site safety events, injuries and close calls.

9. Encourage employees to discuss safety problems as they arise. Do not save safety concerns for the meeting. Allow some time for employee questions or input at the end of the meeting.

10. Invite managers or owners to speak. Ask fellow employees to speak on a safety topic.

11. If you prevented *one* injury, it is time well spent. Your topic may be one that some employees have heard many times, but there may be one person who is new or has never been told of the safety requirement for that topic. Repeating topics several times during the course of a project is beneficial as long as it applies to the work being done.

12. Follow up on employee concerns or questions and get back to them with the answer before the next meeting.

13. Be certain to document the attendance and the topics discussed.

WALK-AROUND SAFETY INSPECTIONS

Walk-around safety inspections will be conducted at the beginning of each job, and at least weekly thereafter.

- The inspections will be conducted by Production Supervisor/Project Manager.
- The inspections will be documented and the documentation will be made available for inspection.
- The records of the walk-around inspections will be maintained until the completion of the job.

General Safety Rules for Construction

1. Always store materials in a safe manner. Tie down or support piles if necessary to prevent falling, rolling, or shifting.

2. Shavings, dust scraps, oil or grease should not be allowed to accumulate. Good housekeeping is a part of the job.

3. Trash piles must be removed as soon as possible. Trash is a safety and fire hazard.

4. Remove or bend over the nails in lumber that has been used or removed from a structure.

5. Immediately remove all loose materials from stairs, walkways, ramps, platforms, etc.

6. Do not block aisles, traffic lanes, fire exits, gangways, or stairs.

7. Avoid shortcuts – use ramps, stairs, walkways, ladders, etc.

8. Standard guardrails must be erected around all floor openings and excavations must be barricaded. Contact your supervisor for the correct specifications.

9. Do not remove, deface or destroy any warning, danger sign, or barricade, or interfere with any form of protective device or practice provided for your use or that is being used by other workers.

10. Get help with heavy or bulky materials to avoid injury to yourself or damage to material.

11. Keep all tools away from the edges of scaffolding, platforms, shaft openings, etc.

12. Do not use tools with split, broken, or loose handles, or burred or mushroomed heads. Keep cutting tools sharp and carry all tools in a container.

13. Know the correct use of hand and power tools. Use the right tool for the job.

14. Know the location and use of fire extinguishing equipment and the procedure for sounding a fire alarm.

15. Flammable liquids shall be used only in small amounts at the job location and in approved safety cans.

16. Proper guards or shields must be installed on all power tools before use. Do not use any tools without the guards in their proper working condition. No “homemade” handles or extensions (cheaters) will be used!

17. All electrical power tools (unless double insulated), extension cords, and equipment must be properly grounded.

18. All electrical power tools and extension cords must be properly insulated. Damaged cords must be replaced.

19. Do not operate any power tool or equipment unless you are trained in its operation and authorized by your firm to do so.

20. All electrical power equipment and tools must be grounded or double insulated.

21. Use tools only for their designed purpose.

Ladder Safety Rules

General:

- Inspect before use for physical defects.
- Ensure that ladders are placed with a secure footing on a firm, level support surface
- Ladders are not to be painted except for numbering purposes.
- Do not use ladders for skids, braces, workbenches, or any purpose other than climbing.
- When you are ascending or descending a ladder, do not carry objects that will prevent you from grasping the ladder with both hands.
- Always face the ladder when ascending and descending.
- If you must place a ladder over a doorway, barricade the door to prevent its use and post a warning sign.
- Only one person is allowed on a ladder at a time.
- Do not jump from a ladder when descending.
- All joints between steps, rungs, and side rails must be tight.
- Safety feet must be in good working order and in place.
- Rungs must be free of grease and/or oil.

Stepladders

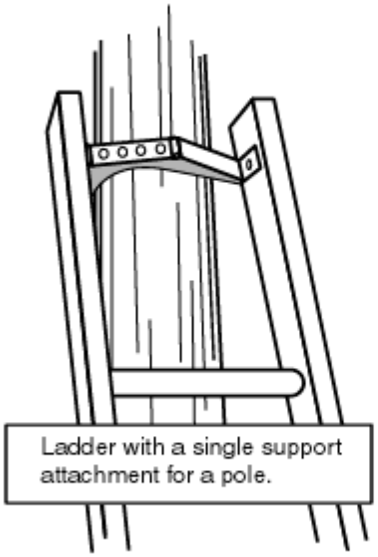
- Do not place tools or materials on the steps or platform of a stepladder
- Do not use the top two steps of a stepladder as a step or stand.
- Always level all four feet and lock spreaders in place.
- Do not use a stepladder as a straight ladder.

Straight type or extension ladders

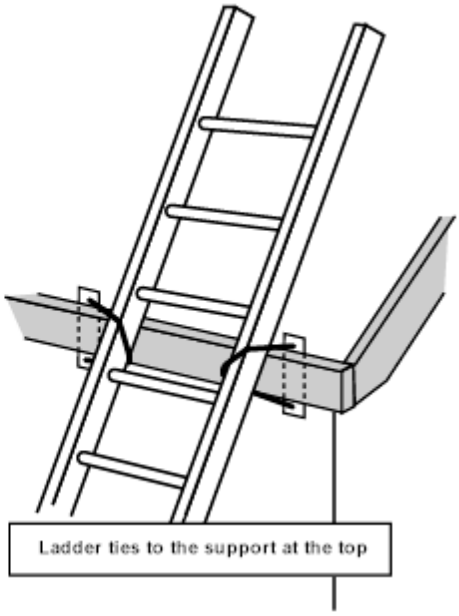
- All straight or extension ladders must extend at least three feet beyond the supporting object when used as an access to an elevated work area.

- After raising the extension portion of a two or more stage ladder to the desired height, check to ensure that the safety dogs or latches are engaged.

- All extension or straight ladders must be secured or tied off at the top.

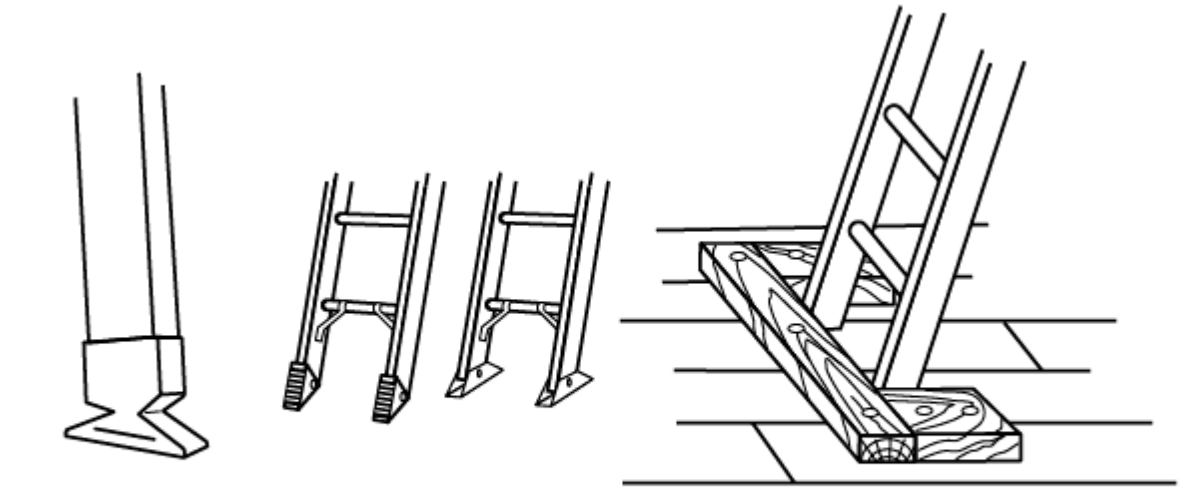


Ladder with a single support attachment for a pole.



Ladder ties to the support at the top

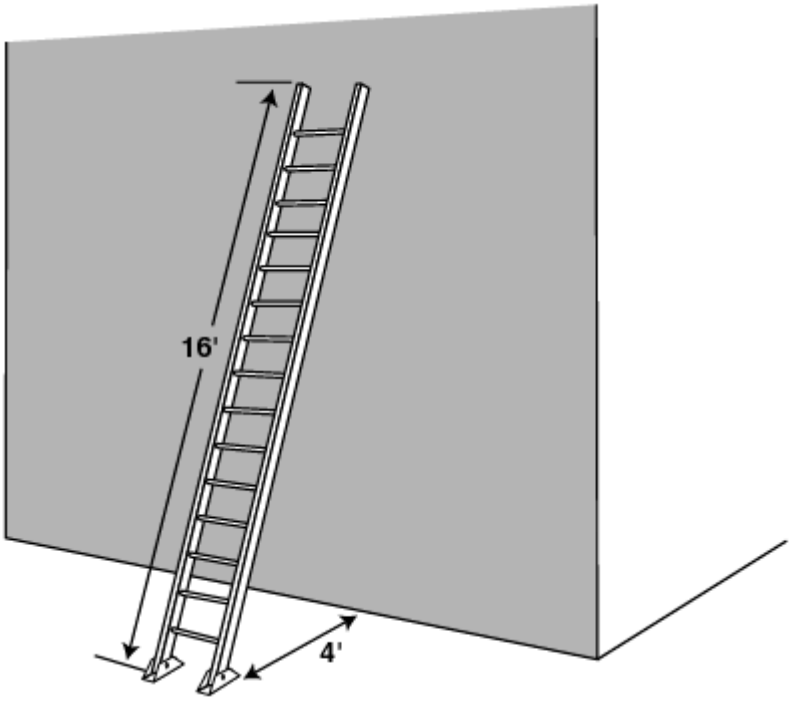
- All ladders must be equipped with safety (non-skid) feet.



Rubber Safety Feet Spikes Cleats Nailed to the Floor

Ladders with supports on the bottom.

- Portable ladders must be used at such a pitch that the horizontal distance from the top support to the foot of the ladder is about one-quarter of the working length of the ladder.



TOOLS AND EQUIPMENT

1. General

a. Operate equipment and tools only if you are trained in their use and authorized to do so.

b. Tools or guards are not to be altered.

c. All equipment, tools, cables, slings, cords, etc. shall be inspected before each day's use and monitored during use. Any found to be defective shall be taken from service immediately and reported to your foreman or supervisor.

d. Tools are to be used only for their designated purpose.

e. Personal tools are subject to inspection at any time. Any found defective or unsafe shall be immediately removed from service.

2. Electric Tools

a. Electric power operated tools shall either be approved double insulated or be properly grounded and used with ground fault circuit interrupters on all jobsites.

b. All extension cords are to be heavy duty 3 conductor of #12 or lower. Any cords which have damage to the insulation, receptacle or plug will not be used until repaired or replaced.

c. Electric cords shall not be used for hoisting or lowering tools.

d. Tools or extension cords that are frayed or have ground prongs missing shall not be used. Cords must be appropriately rated and insulated.

3. Powder-Actuated Tools

a. Only employees who have been trained in the operation of the particular tool in use shall be allowed to operate a powder-actuated tool.

b. Powder-actuated tools shall be operated in accordance with Section 1926.302(e) of the OSHA Standards.

c. Eye protection and hearing protection will be worn by employees operating powder- actuated tools and by other employees working in near proximity to powder-actuated tool operations.

4. Hand Tools

a. Wrenches shall not be used when the jaws are sprung to the point that slippage occurs.

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

c. The wooden handles of tools shall be kept free of splinters or cracks and shall be kept tight in the tool.

d. "Cheaters" shall not be used to increase the tool's capacity.

5. Rigging

a. Know capacities and proper use of chain falls, hoists, chokers, shackles and clamps.

b. Cable clamps shall be applied so that the "U" section is in contact with the dead end of the cable.

c. Stay out from under and in front of loads on cranes, etc. Do not cause or permit a load to be carried over a worker who is unaware of it or cannot get clear.

d. Know proper hand signals for signaling cranes and be sure only one person is signaling the operator at one time. Anyone signaling the crane or rigging loads must be properly trained.

e. Crane signal person shall be identified by wearing a reflective vest.

6. Electrical

a. All temporary 120 volt circuits will be protected by Ground Fault Circuit Interrupters.

b. All extension cords are to be heavy duty 3 conductor of #12 or lower. Any cords which have damage to the insulation, receptacle or plug will not be used until repaired or replaced.

c. All cords and tools will be inspected for damage before each use. Damaged equipment will be taken out of service immediately.

d. Hot work will not be performed by employees of JRC Incorporated.

OFFICE SAFETY

There are many ways that accidents can occur in an office, but the two primary sources are falls and repetitive motion injuries. Falls occur due to numerous reasons, including poor housekeeping, slippery sidewalks, and carrying loads that obstruct your view. Repetitive motions injuries are hard to predict and control, but they can be managed. Designing workstations to fit the user and using proper posture are key elements in the prevention of these injuries. Below are some office safety rules that will make our office environments safer.

General Rules

1. Do not block your view by carrying large or bulky items; use a dolly or hand truck or get assistance from a fellow employee.
2. Store sharp objects, such as pens, pencils, letter openers or scissors in drawers or with the points down in a container.
3. Use a ladder or step stool to retrieve or store items that are located above your head. Do not climb on chairs
4. Do not store or leave items on stairways or walkways.
5. Sidewalks, parking lots and other walking surfaces should be kept clean and free of slipping hazards. Each office should maintain a bag of ice melt for icy conditions.
6. Do not run on stairs or take more than one step at a time.
7. Use handrails when ascending or descending stairs or ramps.
8. Do not jump from ramps, platforms, ladders or step stools.
9. Obey all posted safety and danger signs.

Work Stations

1. Chairs should be adjusted so that the user has both feet on the ground.
2. Chairs that recline should be locked in the upright position while working on computers.
3. Keyboards should be positioned so that they are approximately the same height as your elbows. Wrist pads are helpful.
4. Monitors should be positioned so that the top is just below eye level.
5. Never open more than one file drawer at a time.
6. Put heavy files in the bottom drawers of file cabinets.

Fire Safety

1. Do not use temporary extension cords on a long term basis.
2. Do not use temporary space heaters unless they are equipped with safety switches that turn the heater off if it is turned over.
3. Do not use extension or power cords that have the ground prong removed or broken off.
4. Remove trash on a regular basis.
5. Do not store flammable materials in the office unless they are in an approved fire cabinet.
6. Every office should have at least one ABC fire extinguisher rated at least 4A 60BC. Extinguishers should be mounted near a major entrance. Travel distance to an extinguisher must not exceed 75’.

SOFT-TISSUE INJURY PREVENTION

Soft-tissue injuries affect the muscles, tendons, ligaments or nerves and account for 34 percent of all lost time, work related injuries. Such injuries can happen suddenly (acute) or develop over long periods of time (chronic). Either way, they can be devastating to both employers and employees, resulting in increased workers' compensation costs, lost work time and even permanent disability.

Prevention of Soft-Tissue injuries involves:

1. Risk Identification
2. Risk Evaluation
3. Risk Control

Employees must take an active role in identifying improvement opportunities to minimize and even eliminate soft-tissue injuries.

Additionally, JRC is continually developing methods to recognize and evaluate ergonomics hazards and, where necessary, implement controls. This will be done in consultation with employees who are required to perform the tasks.
This consultation should occur when:

(a) planning for the introduction of new or modified operations and tasks or when reviewing existing operations. It should be done in time to allow for changes arising from the consultation to be made;
(b) recognizing problem areas so that priorities for evaluation can be established to prevent soft-tissue injury.
(c) determining the approach to be used in evaluating operations and tasks;
(d) deciding on control measures to reduce risk factors; and
(e) reviewing the effectiveness of implemented control measures.

FALL PROTECTION SAFETY RULES

Falls from elevation are a major cause of injuries and deaths in the construction industry. We at JRC Incorporated are committed to eliminating injuries caused by fall hazards by instituting a program of 100% fall protection for all fall hazards.

All work sites with fall hazards of 10 feet or more will have a site-specific fall protection work plan completed before any employees begin work. The employees on that specific job will be trained in the fall hazards and the method used to implement fall protection. The attached training guide will be used to train employees in the inspection and maintenance of their fall protection equipment, as well as fall protection selection criteria. Employees who fail to follow this policy are subject to disciplinary action, up to and including dismissal.

Supervisors must ensure that the appropriate fall protection system is provided, installed, and implemented according to the requirements when employees are exposed to fall hazards of 4 feet or more to the ground or lower level when on a walking/working surface.

Fall protection on steep pitched and low pitched roofs.

1. Steep pitched roofs. Regardless of the work activity, you must ensure that employees exposed to fall hazards of 4 feet or more while working on a roof with a pitch greater than 4 in 12 use one of the following:

(i) Fall restraint system. Safety monitors and warning line systems are prohibited on steep pitched roofs;

(ii) Fall arrest system; or

(iii) Positioning device system.

2. Low pitched roofs. You must ensure that employees exposed to fall hazards of 4 feet or more while engaged in work, other than roofing work or leading edge work, on low pitched roofs use one of the following:

(i) Fall restraint system;

(ii) Fall arrest system;

(iii) Positioning device system;

(iv) Safety monitor and warning line system; or

(v) Safety watch system.

3. Hazardous slopes. Employees exposed to falls of 4 feet or more while working on a hazardous slope must use personal fall restraint systems or positioning device systems.

The evaluation of the jobsite and the completion of the fall protection work plan will be done by a designated “competent person,” who has an understanding of fall protection requirements, the fall protection systems available for use, and has the authority to take corrective action to eliminate employee exposure to fall hazards.

Fall protection will be provided either through the use of a fall arrest system or a fall restraint system and thoroughly described in the fall protection work plan available on site for review.

PERSONAL PROTECTIVE EQUIPMENT

Personal protective equipment will be provided to employees for hazards to which they are exposed, or which are required by the general contractor. The use of this equipment must be consistently enforced in accordance with federal, state, local and company rules. Safety equipment shall never be altered or modified.

A. Hard Hats

Hard hats shall be worn by all employees. All hard hats are to be in compliance with federal standards.

B. Safety Glasses

ANSI approved safety glasses with side shields must be worn whenever hazards from flying objects are present that could cause eye injuries. Workers with prescription glasses may use these glasses if they are equipped with side shields.

C. Goggles

Goggles shall be worn where there is danger from splashing, chipping, sawing, grinding, cutting, etc., which could result in an eye injury. Face shields: will be worn where full-face protection is required such as working with flying objects produced when cutting or grinding.

D. Welding Helmets

Welding helmets are required for persons doing welding operations.

E. Hearing Protection

To be worn where exposed to high noise levels exceeding 85 dBA over an eight-hour period or short-term exposure to high noise levels such as concrete saws and powder actuated tools. Employees can estimate high noise levels by standing 3’ from a fellow employee and trying to communicate without having to raise their voice. If additional volume is necessary, hearing protection should be worn.

F. Respiratory Protection

Respirators, if needed, will be used in accordance with health and safety regulations. Respirators should not be used without consulting with our safety consultant. Additional training, medical evaluation and fit testing will be required. If employees wish to voluntarily wear disposable dust masks, they should be provided with a copy of appendix L to the OSHA respiratory standard. A copy is available in the exhibits section of this program.

G. Safety Harnesses, Lanyards and Lifelines

To be worn by persons working at heights where suitable work platforms cannot be provided and as specified under OSHA standards. All harnesses, lanyards, lifelines, etc., must be inspected before each use. (See our fall protection program for details)

H. Clothing

Suitable clothing for construction operations shall be required. Shirts with at least 4" sleeves shall be required at all times, and lightweight canvas shoes shall not be permitted. No baggy pants, No sagging, and no inappropriate sayings on shirts (drugs/profanity). Employees on projects where they are exposed to traffic will also wear appropriate reflective vests.

EQUIPMENT INSPECTION AND MAINTENANCE

It is of the utmost importance that proper equipment inspection and maintenance programs be conducted on the project to reduce accident exposure.

Inspection and Maintenance Guidelines

1. Planned preventive maintenance and service on equipment shall be performed in accordance with programs and at scheduled intervals.
2. Equipment found to have defects in any critical area which could affect the safe operation of the equipment shall be tagged accordingly and taken out of service until proper repairs have been made.
3. Equipment shall be periodically cleaned to prevent the accumulation of oil, grease, dirt, etc.
4. Maintain records of inspection – use forms provided by manufacturer if possible.
5. Use systems for locking out and tagging equipment that is undergoing maintenance.
6. Require safety equipment and components be maintained in an operative condition (i.e. low air warning devices, back-up alarms, brakes, mirrors, boom stops, etc.). Equipment system safety devices shall not be bypassed or blocked off.
7. Operator complaints on equipment condition shall be investigated and necessary corrective action taken.
8. All hoisting equipment shall be inspected daily and annually. Copies of the inspections shall be maintained in the equipment cab.

EMERGENCY PROCEDURES

I. Dangerous Weather

A. When conditions are present that could produce dangerous weather, flooding, etc., it will be the Project Managers/Construction Supervisor's responsibility to closely monitor the situation and take necessary steps to protect workers, equipment, and materials.

B. Thunderstorms and Tornadoes – At the first warning of approaching storms preliminary steps shall be taken to secure the jobsite.

1. Loose materials subject to wind damage should be secured.
2. Work on roofs and other elevated surfaces should be discontinued.
3. Equipment such as cranes that are subject to lightning strikes should be secured and evacuated.
4. A protected area should be selected for evacuation should a severe thunderstorm or tornado strike suddenly. This location should be communicated to all supervisors and employees so that immediate evacuation can take place once the Project Managers/Construction Supervisors directs it.

C. Flooding – All equipment and materials should be stored in areas that are not subject to flooding. Should the entire project become subject to flooding, the Project Managers/Construction Supervisors will use available workers to evacuate equipment and materials from the jobsite as long as he feels it is safe to do so. Salvage efforts shall be discontinued as soon as they become a threat to workers safety.

II. Emergency Spill and Risk Procedures

A. All hazardous materials should be stored in such a way as to minimize the chance of a leak causing environmental damage. (Covered storage, diking, etc.)

B. Should a spill occur, the Project Managers/Construction Supervisors will direct efforts to temporarily contain and control the leakage, provided those efforts do not jeopardize the safety of the workers involved.

C. If the spilled materials present an immediate danger to safety or health, work will stop immediately and the Project Managers/Construction Supervisors will contact the local HAZMAT response team to manage the spill. In Nashville, that will be the Metro Fire Department.

D. Permanent clean-up of spills will be done by outside consultants hired by the Main office.

III. Other Emergencies

Any other emergency on the jobsite will be managed through communications between the Project Managers/Construction Supervisors and the foremen on the jobsite. If evacuation is necessary the supervisor will direct an assembly point where foremen will be responsible for accounting for their personnel and providing a report to the supervisor

SCAFFOLD SAFETY RULES

1. General

   Before starting work on a scaffold, inspect it for the following:

   a. Are guardrails, toeboards, and planking in place and secure?

   b. Are locking pins at each joint in place?

   c. Are all wheels on moveable scaffolds locked?

2. Do not attempt to gain access to a scaffold by climbing on it (unless it is specifically designed for climbing – always use a ladder.

3. Scaffolds and their components must be capable of supporting four times the maximum intended load.

4. Any scaffold, including accessories such as braces, brackets, trusses, screw legs, ladders, etc., damaged or weakened in any way, must be immediately repaired or replaced.

5. Scaffold planks must extend over their end supports not less than 6 inches nor more than 12 inches, unless otherwise specifically required.

6. Scaffold platforms must be at least 18 inches wide unless otherwise specifically required or exempted.

7. Where persons are required to work or pass under the scaffold, scaffolds shall be provided with a screen between the toeboard and guardrail, extending along the entire opening. The screen must be made of No. 18 gauge U.S. Standard wire, ½ inch mesh or equivalent protection.

8. All scaffolds must be erected level and plumb, and on a solid footing.

9. Do not change or remove scaffold members unless authorized.

10. Do not allow workers to ride on a rolling scaffold when it is being moved. Remove or secure all materials and tools on deck before moving.

11. Do not alter any scaffold member by welding, burning, cutting, drilling, or bending.

MOTORIZED VEHICLES AND EQUIPMENT

1. Do not ride on motorized vehicles or equipment unless a proper seat is provided for each rider.

2. Always be seated when riding authorized vehicles (unless they are designed for standing).

3. Do not operate any motorized vehicle or equipment unless you are specifically authorized to do so by your supervisor.

4. Always use your seat belts in the correct manner.

5. Obey all speed limits and other traffic regulations.

6. Always be aware of pedestrians and give them the right-of-way.

7. Always inspect your vehicle or equipment before and after daily use.

8. Never mount or dismount any vehicles or equipment while they are still in motion.

9. Do not dismount any vehicle without first shutting down the engine, setting the parking brake and securing the load.

10. Do not allow other persons to ride the hook or block, dump box, forks, bucket or shovel of any equipment.

11. Each operator must be knowledgeable of all hand signals and obey them.

12. Each operator is responsible for the stability and security of his/her load.

GENERAL MATERIALS HANDLING SAFETY

General material storage safety:

- Make sure that all materials stored in tiers are stacked, racked, blocked, interlocked, or otherwise secured to prevent sliding, falling, or collapse.

- Post conspicuously the maximum safe load limits of floors within buildings and structures, in pounds per square foot, in all storage areas, except for floor or slab on grade. Do not exceed the maximum safe loads.

- Keep aisles and passageways clear to provide for the free and safe movement of material handling equipment or employees. Keep these areas in good repair.
- Do not store materials on scaffolds or runways in excess of supplies needed for immediate operations.

- Use ramps, blocking, or grading when a difference in road or working levels exists to ensure the safe movement of vehicles between the two levels.

- Do not place materials stored inside buildings under construction within 6 feet of any hoistway or inside floor openings, or within 10 feet of an exterior wall which does not extend above the top of the material stored.

    (i) Anchor and brace temporary floors used in steel erection, concrete forms, and shoring and other “in-process equipment” that are to be left overnight or for longer periods of time to prevent their displacement in any direction. Do not place materials stored inside buildings under construction within 6 feet of any hoistway or inside floor openings, or within 10 feet of an exterior wall which does not extend above the top of the material stored.)

- When working on stored materials in silos, hoppers, tanks, and similar storage areas, use personal fall arrest equipment meeting the requirements of Chapter 296-155 Part C-1.

- Segregate non-compatible materials in storage.

- Stack bagged materials by stepping back the layers and cross-keying the bags at least every ten bags high.

    (i) Carefully handle cement and lime delivered in paper bags to prevent the bags from bursting.

    (ii) Do not pile cement and lime bags more than ten bags high except when stored in bins or enclosures built for the purpose of storage.

    (iii) When bags are removed from the pile, keep the length of the pile at an even height and maintain the necessary step backs every five bags.

    (iv) When handling cement and lime bags, wear eye protection preventing any contact with the substance (such as goggles or other sealed eye protection) and wear long sleeve shirts with close fitting collar and cuffs.

    (v) Do not wear clothing that has become hard and stiff with cement.

    (vi) Make sure to report any susceptibility of skin to cement and lime burns.

    (vii) Make sure that a hand cream or Vaseline and eyewash is provided and kept ready for use to prevent burns.

    (viii) Store lime in a dry place to prevent a premature slacking action that may cause fire.

- Do not stack bricks more than 7 feet high. When a loose brick stack reaches a height of 4 feet, taper it back 2 inches for every foot of height above the 4-foot level.

    (i) Never stack bricks, for storage purposes, on scaffolds or runways.

(ii) Always stack blocks; do not throw in a loose pile.

- When stacking masonry blocks higher than 6 feet, taper back the stack one-half block per tier above the 6-foot level.

  (i) When stacking inside a building, distribute the piles to prevent overloading the floor.

  (ii) Do not drop or throw blocks from an elevation or deliver blocks through chutes.

- Do not stack lumber more than 20 feet high; if handling lumber manually, do not stack more than 16 feet high.

  (i) Remove all nails from used lumber before stacking.

  (ii) Stack lumber on level and solidly supported sills, and such that the stack is stable and self-supporting.

  (iii) Stack stored lumber on timber sills to keep it off the ground. Sills must be placed level on solid supports.

  (iv) Place cross strips in the stacks when they are stacked more than 4 feet high.

- If not racked, stack and block structural steel, poles, pipe, bar stock, and other cylindrical materials as to prevent spreading or tilting.

  (i) Wear heavy gloves when handling reinforcing steel.

  (ii) When bending reinforcing steel on the job, use a strong bench set up on even dry ground or a floor to work on.

  (iii) Carefully pile structural steel to prevent danger of members rolling off or the pile toppling over.

  (iv) Keep structural steel in low piles, giving consideration to the sequence of use of its members.

  (v) Stack corrugated and flat iron in flat piles, with the piles not more than 4 feet high; place spacing strips between each bundle.

- Frequently inspect stock piles of sand, gravel, and crushed stone to prevent their becoming unsafe by continued adding to or withdrawing from the stock.

  (i) Do not remove frozen material in a manner that would produce an overhang.

General Rigging Equipment Safety:

- Inspect rigging equipment for material handling prior to use on each shift and as necessary during its use to ensure that it is safe. Remove defective rigging equipment from service.

- Never load rigging equipment in excess of its recommended safe working load.

- Remove rigging equipment when not in use from the immediate work area so as not to present a hazard to employees.

- Mark special rigging accessories (i.e., spreader bars, grabs, hooks, clamps, etc.) or other lifting accessories with the rated capacity. Proof test all components to 125% of the rated load prior to the first use. Maintain permanent records on the job site for all special rigging accessories.

Disposal of waste materials:

- Whenever materials are dropped more than 20 feet to any point lying outside the exterior walls of the building, use an enclosed chute of wood or equivalent material.

- When debris is dropped without the use of chutes, make sure that the area onto which the material is dropped is completely enclosed with barricades at least 42 inches high and 20 feet back from the projected edge of the opening above. Post at each level warning signs of the hazard of falling materials. Do not remove debris in this lower area until debris handling ceases above.

- Remove all scrap lumber, waste material, and rubbish from the immediate work area as the work progresses.

- Make sure to comply with local fire regulations if disposing of waste material or debris by burning.

- Keep all solvent waste, oily rags, and flammable liquids in fire-resistant covered containers until removed from the work site.

Forklift safety

Employees must be trained on specific equipment that they will be operating in addition to this basic information.

Lockout/Tagout Checklist

	YES	NO	COMPLETION DATE
1. Equipment, machinery and personnel:			
a. A list of equipment and machines that need to be locked out has been developed.	_____	_____	_____
b. All new machinery (after Jan. 1990) has the ability to accept a lockout device.	_____	_____	_____
c. Specific written Energy Control Procedures are developed and used for each piece of equipment.	_____	_____	_____
d. A list of all authorized employees has been developed.	_____	_____	_____
e. A list of all affected employees has been developed.	_____	_____	_____
2. Energy Control Program:			
a. A written Energy Control Program has been developed.	_____	_____	_____
b. Does the written program state the methods of compliance, including the:			
• Intended use of procedures.	_____	_____	_____
• Steps for shut down, isolating, blocking and securing energy.	_____	_____	_____
• Steps for placement, removal, and transfer of lockout/tagout devices.	_____	_____	_____
• Requirements for testing to verify effectiveness of lockout/tagout.	_____	_____	_____
c. Compliance with energy control procedures is verified at least annually. The results of the inspection are certified and kept on file.	_____	_____	_____
d. Lockout/tagout devices are provided. (locks, hasps, tags, etc.).	_____	_____	_____
e. Lockout devices are singularly identified, durable, standardized, substantial and employee identifiable.	_____	_____	_____
f. Lockout devices are used only for energy control.	_____	_____	_____

g. A tagout system is used only if a isolating device cannot be locked out. _____ _____ _____

h. Tagout devices are located at the same location as lockout devices. _____ _____ _____

i. Tagout devices warn against hazardous conditions such as Do Not Start, Do Not Open. _____ _____ _____

j. Energy isolation is performed ONLY by authorized employees. _____ _____ _____

k. Affected employees are notified before and after lockout/tagout. _____ _____ _____

l. Group lockout/tagout procedures are used when needed. _____ _____ _____

m. Information about each others' lockout program is exchanged with contractors. _____ _____ _____

n. Continuity of lockout/tagout is provided during shift change and personnel changes. _____ _____ _____

3. Training requirements:

a. Authorized employees - recognition of energy sources, type and magnitude of energy and methods and procedures necessary for isolation and control. _____ _____ _____

b. Affected employees - purpose and use of energy control procedures. _____ _____ _____

c. Other employees - instructed on the procedures locked or tagged out. _____ _____ _____

d. For tagout system - limitations of tags. _____ _____ _____

e. Retraining - when change in job, assignment, equipment, process, procedure or the result of an inspection. _____ _____ _____

f. Training is certified with names and dates. _____ _____ _____

HAZARD COMMUNICATION PROGRAM
(REFER TO FULL HAZCOM COMMUNICATION PROGRAM IN APPENDIX)

Purpose:

The purpose of the Hazard Communication Program is to ensure that the hazards of all chemicals produced or imported by chemical manufacturers or importers are evaluated. Information concerning the hazards must be transmitted to affected employers and employees before they use the products.

Procedure:

- Inventory Lists – Know the hazardous chemicals in your workplace that are a potential physical or health hazard. Make an inventory list of these hazardous chemicals; this list must be a part of your written program.

- SDS – Make sure there is a safety data sheet (SDS) for each chemical and that the inventory list and labeling system reference the corresponding SDS for each chemical.

- Labeling System – Each container entering the workplace must be properly labeled with the identity of the product, the hazardous warning, and the name and address of the manufacturer.

- Written Program – Develop, implement, and maintain a comprehensive written hazard communication program at the workplace that includes provisions for container labeling, material safety data sheets, and an employee training program

Employees must be made aware of where hazardous chemicals are used in their work areas. They must also be informed of the requirements of the Hazard Communication Standard, the availability and location of the written program, the list of hazardous chemicals, and the material safety data sheets.

Employers are required to train employees in the protective practices implemented in their workplace, the labeling system used, how to obtain and use SDSs, the physical and health hazards of the chemicals and the recognition, avoidance and prevention of accidental entrance of hazardous chemicals into the work environment.

RESPIRATOR PROGRAM

Purpose:

The purpose of the Respirator Program is to ensure that all employees are protected from exposure to respiratory hazards. Engineering controls such as ventilation and substitution of less toxic materials are the first line of defense. However, engineering controls are not feasible for some operations or do not completely control the identified hazards. In these situations, respirators and other protective equipment must be used. Respirators are also utilized for protection during emergencies.

Procedure:

This program applies to all employees who are required to wear respirators during normal work operations and during certain non-routine or emergency operations. Employees participating in the respiratory protection program do so at no cost to them. The expense associated with medical evaluations, training, and respiratory protection equipment will be borne by the company.

Employees who voluntarily choose to use a cartridge style respirator when the respirator is not required are subject to the medical evaluation, cleaning, maintenance, and storage elements only of this program. These individuals will also receive training covering proper procedures for cleaning, maintenance and storage of their respirators.

Certain types of work may require specialized training, such as lockout/tagout, confined spaces and respirator use. This training, if needed, will be coordinated through our safety consultant and provided before workers are exposed to any unusual hazards.

HEARING CONSERVATION PROGRAM

Purpose:

The purpose of the Hearing Conservation Program is to ensure that all employees are protected from exposure to noise hazards. Employers whose workers are exposed to high noise levels must have an active program for protecting their employees' hearing.

Procedure:

An effective hearing conservation program should first assess company wide noise exposures in order to identify any employee or group of employees exposed to noise. Noise is measured with a sound level meter or noise dosimeters, which measure average noise levels over time. Employees who are exposed to noise at or above an eight-hour time-weighted average of 85 dB (decibels) must be covered under a hearing conservation program. For these employees, the employer must develop, implement, and maintain (at no cost to the employees) a program consisting of:

1. Mandatory audiometric testing
2. Making hearing protectors available and ensuring their use.
3. Comprehensive training explaining hearing loss, hearing protective devices, and the employer's hearing conservation program.
4. Warning signs for high noise areas (115 dBA or higher).
5. Keeping accurate records.
6. Ensuring employee access to their records.

Additionally, the employer must post a copy of the hearing conservation standard or post a notice to affected employees or their representatives that a copy of the standard is available at the workplace for their review.

HEAT STRESS - How do you prevent heat illness?

- Supply adequate water and encourage workers who work in hot weather to drink regularly, even when not thirsty. A small amount of water every 15 minutes is recommended rather that a large amount after hours of sweating.

- Learn the signs and symptoms of heat-related illness.

- Inform workers they should avoid alcohol or drinks with caffeine before or during work in hot weather.

- Try to do the heaviest work during the cooler parts of the day.

- Adjusting to work in heat takes time. Allow workers to acclimatize. Start slower and work up to your normal pace.

- Wear lightweight, loose-fitting, light-colored, breathable (e.g. cotton) clothing and a hat.

- Allow workers to take regular breaks from the sun. Loosen or remove clothing that restricts cooling.

- Watch workers for symptoms of heat-related illness. This is especially important for non-acclimatized workers, those returning from vacations and for all workers during heat-wave events.

- If exertion causes someone's heart to pound or makes them gasp for breath, become lightheaded, confused, weak or faint, they should STOP all activity and get into a cool area or at least into the shade, and rest.

The two major heat-related illnesses are heat exhaustion and heat stroke. Heat exhaustion, if untreated, may progress to deadly heat stroke. **Heat stroke is very dangerous and frequently fatal.** If workers show symptoms, *always take this seriously* and have them take a break and cool down before returning to work. *Stay with them*. If symptoms worsen or the worker does not recover within about 15 minutes, call 911 and have them transported and medically evaluated. *Do not delay transport.*

Heat Stroke or Heat Exhaustion?

How <u>do</u> you tell the difference?

The telling difference is mental confusion or disorientation in ALL heat stroke victims

You can ask these 3 questions: What is your name? What day is this? Where are we?

If a worker can't answer these questions, assume it is heat stroke.

What are the symptoms of heat exhaustion and heat stroke?

Heat Exhaustion	Heat Stroke
• Heavy sweating • Exhaustion, weakness • Fainting / Lightheadedness • Paleness • Headache • Clumsiness, dizziness • Nausea or vomiting • Irritability	• Sweating may or may not be present • Red or flushed, hot dry skin • Any symptom of heat exhaustion but more severe • Confusion / Bizarre behavior • Convulsions before or during cooling • Collapse • Panting/rapid breathing • Rapid, weak pulse • Note: May resemble a heart attack

What do you do if someone is suffering from heat exhaustion or heat stroke?

Heat Exhaustion	Heat Stroke (medical emergency)
• Move the worker to a cool, shaded area to rest; **do not leave them alone.** • Loosen and remove heavy clothing that restricts evaporative cooling. • Give cool water to drink, about a cup every 15 minutes. • Fan the worker, spray with cool water, or apply a wet cloth to their skin to increase evaporative cooling. • Recovery should be rapid. Call 911 if they do not feel better in a few minutes. • Do not further expose the worker to heat that day. Have them rest and continue to drink cool water or electrolyte drinks.	• Get medical help immediately, call 911 and transport as soon as possible. • Move the worker to a cool, shaded area and remove clothing that restricts cooling. • Seconds count – Cool the worker rapidly using whatever methods you can. For example, immerse the worker in a tub of cool water; place the worker in a cool shower; spray the worker with cool water from a garden hose; sponge the worker with cool water; or, if the humidity is low, wrap the worker in a cool, wet sheet and fan them vigorously. Continue cooling until medical help arrives. • If emergency medical personnel are delayed, call the hospital emergency room for further instruction. • Do not give the worker water to drink until instructed by medical personnel.

HEAT STRESS CHECKLIST

- Does the worksite have temperature extremes (above 85 degrees in higher humidity, above 90-95 degrees in lower humidity) that may cause heat stress?

- Do employees do heavy labor or wear heavy protective clothing? (increases heat stress conditions)

- Do employees have access to adequate drinking water at all times?

- Are employees allowed work breaks during prolonged heavy labor?

- Do workers have access to shade during breaks?

- Have employees been trained on the symptoms of heat-related illness (heat exhaustion and heat stroke) ?

- Are employees trained on first aid measures for heat-related illness?

CONFINED SPACES

Fatalities and injuries constantly occur among construction workers who, during the course of their jobs, are required to enter confined spaces. In some circumstances, these workers are exposed to multiple hazards, any of which may cause bodily injury, illness, or death. Workers are injured and killed from a variety of atmospheric factors and physical agents.

Employers must consult with employees and their authorized representatives on the development and implementation of all aspects of the permit required confined space entry program.

You must first determine if you have any confined space situations. A confined space has three characteristics; it must have **all three** characteristics to be considered a confined space:

1. Large enough to get your body entirely inside to do your work
2. Not designed or intended for continuous occupation
3. Restricted entry or exit

If you do have any confined spaces, you must not enter them until you have carefully evaluated the hazards inside to determine what type of entry procedure may be used for each confined space you have:

- Non-permit-required confined space (NPRCS)
- Permit-required confined space (PRCS)
- Alternate Entry

Certain types of work may require specialized training, such as lockout/tagout, confined spaces and respirator use. This training, if needed, will be coordinated through our safety consultant and provided before workers are exposed to any unusual hazards.

APPENDIXES

Job Orientation Guide

Company: JRC Incorporated	Employee:
Trainer:	Hire Date:
Date	Position:

This checklist is a guideline for conducting employee safety orientations for employees new to JRC Incorporated . Once completed and signed by both supervisor and employee, it serves as documentation that orientation has taken place.

1. Explain the company safety program, including:
   - Orientation _____
   - On-the-job training _____
   - Safety meetings _____
   - Incident investigation _____
   - Disciplinary action _____
2. Use and care of personal protective equipment (Hard hat, fall protection, eye protection, etc.) _____
3. Line of communication and responsibility for immediately reporting injuries.
   - A. When to report an injury _____
   - B. How to report an injury _____
   - C. Who to report an injury to _____
   - D. Filling out incident report forms _____
4. General overview of operation, procedures, methods and hazards as they relate to the specific job _____
5. Pertinent safety rules of the company and OSHA _____
6. First aid supplies, equipment and training
   - A. Obtaining treatment _____
   - B. Location of Facilities _____
   - C. Location and names of First-aid trained personnel _____
7. Emergency plan
   - A. Exit location and evacuation routes _____
   - B. Use of fire fighting equipment (extinguishers, hose) _____
   - C. Specific procedures (medical, chemical, etc.) _____
8. Vehicle safety _____
9. Personal work habits
   - A. Serious consequences of horseplay _____
   - B. Fighting _____
   - C. Inattention _____
   - D. Smoking policy _____
   - E. Good housekeeping practices _____
   - F. Proper lifting techniques _____

NOTE TO EMPLOYEES: Do not sign unless ALL items are covered and ALL questions are satisfactorily answered.

The signatures below document that the appropriate elements have been discussed to the satisfaction of both parties, and that both the supervisor and the employee accept responsibility for maintaining a safe and healthful work environment.

Date: _____ Supervisor's Signature: _____

Date: _____ Employee's Signature: _____

Employee's Report of Injury Form

Instructions: Your employees may use this form to report all work related injuries, illnesses, or "near miss" events (which could have caused an injury or illness) – *no matter how minor*. This helps you to identify and correct hazards before they cause serious injuries. This form should be completed by employees as soon as possible and given to a supervisor for further action.

I am reporting a work related: ❑ Injury ❑ Illness ❑ Near miss	
Your Name:	
Job title:	
Supervisor:	
Have you told your supervisor about this injury/near miss? ❑ Yes ❑ No	
Date of injury/near miss:	Time of injury/near miss:
Names of witnesses (if any):	
Where, exactly, did it happen?	
What were you doing at the time?	
Describe step by step what led up to the injury/near miss. (continue on the back if necessary):	
What could have been done to prevent this injury/near miss?	
What parts of your body were injured? If a near miss, how could you have been hurt?	
Did you see a doctor about this injury/illness? ❑ Yes ❑ No	
If yes, whom did you see?	Doctor's phone number:
Date:	Time:
Has this part of your body been injured before? ❑ Yes ❑ No	
If yes, when?	Employer:
Your signature (optional):	Date:

Incident Investigation Report Form

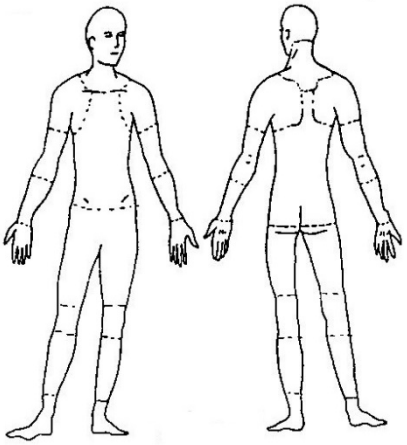
Instructions: Complete this form as soon as possible after an incident that results in serious injury or illness. (Optional: Use to investigate a minor injury or near miss that *could have resulted in a serious injury or illness*.)

This is a report of a: ❑ Death ❑ Lost Time ❑ Dr. Visit Only ❑ First Aid Only ❑ Near Miss	
Date of incident:	This report is made by: ❑ Employee ❑ Supervisor ❑ Team ❑ Final Report

Step 1: Injured employee (complete this part for each injured employee)

Name:	Sex: ❑ Male ❑ Female	Age:
Department:	Job title at time of incident:	

Part of body affected: (shade all that apply)



Nature of injury: (most serious one)
- ❑ Abrasion, scrapes
- ❑ Amputation
- ❑ Broken bone
- ❑ Bruise
- ❑ Burn (heat)
- ❑ Burn (chemical)
- ❑ Concussion (to the head)
- ❑ Crushing Injury
- ❑ Cut, laceration, puncture
- ❑ Hernia
- ❑ Illness
- ❑ Sprain, strain
- ❑ Damage to a body system:
- ❑ Other _____

This employee works:
- ❑ Regular full time
- ❑ Regular part time
- ❑ Seasonal
- ❑ Temporary

Months with this employer

Months doing this job:

(e.g.: nervous, respiratory, or circulatory systems)

Step 2: Describe the incident

Exact location of the incident:	Exact time:

What part of employee's workday? ❑ Entering or leaving work ❑ Doing normal work activities ❑ During meal period ❑ During break ❑ Working overtime ❑ Other

Names of witnesses (if any):

Number of attachments:	Written witness statements:	Photographs:	Maps / drawings:

What personal protective equipment was being used (if any)?

Describe, step-by-step the events that led up to the injury. Include names of any machines, parts, objects, tools, materials and other important details.

Description continued on attached sheets: ❑

Step 3: Why did the incident happen?

Unsafe workplace conditions: (Check all that apply)
- ❑ Inadequate guard
- ❑ Unguarded hazard
- ❑ Safety device is defective
- ❑ Tool or equipment defective
- ❑ Workstation layout is hazardous
- ❑ Unsafe lighting
- ❑ Unsafe ventilation
- ❑ Lack of needed personal protective equipment
- ❑ Lack of appropriate equipment / tools
- ❑ Unsafe clothing
- ❑ No training or insufficient training
- ❑ Other: _____

Unsafe acts by people: (Check all that apply)
- ❑ Operating without permission
- ❑ Operating at unsafe speed
- ❑ Servicing equipment that has power to it
- ❑ Making a safety device inoperative
- ❑ Using defective equipment
- ❑ Using equipment in an unapproved way
- ❑ Unsafe lifting by hand
- ❑ Taking an unsafe position or posture
- ❑ Distraction, teasing, horseplay
- ❑ Failure to wear personal protective equipment
- ❑ Failure to use the available equipment / tools
- ❑ Other: _____

Why did the unsafe conditions exist?

Why did the unsafe acts occur?

Is there a reward (such as “the job can be done more quickly”, or “the product is less likely to be damaged”) that may have encouraged the unsafe conditions or acts? ❑ Yes ❑ No
If yes, describe:

Were the unsafe acts or conditions reported prior to the incident? ❑ Yes ❑ No

Have there been similar incidents or near misses prior to this one? ❑ Yes ❑ No

Step 4: How can future incidents be prevented?

What changes do you suggest to prevent this injury/near miss from happening again?

❑ Stop this activity ❑ Guard the hazard ❑ Train the employee(s) ❑ Train the supervisor(s)

❑ Redesign task steps ❑ Redesign work station ❑ Write a new policy/rule ❑ Enforce existing policy

❑ Routinely inspect for the hazard ❑ Personal Protective Equipment ❑ Other: _____

What should be (or has been) done to carry out the suggestion(s) checked above?

Description continued on attached sheets: ❑

Step 5: Who completed and reviewed this form? (Please Print)

Written by: Department:	Title: Date:
Names of investigation team members:	
Reviewed by:	Title: Date:

WEEKLY CREW SAFETY MEETING

Project Name		Address
Date	Time	# of employees or subs attending
Subjects discussed		

Minutes:

In addition to Crew Safety Meeting a Weekly Walk-Around Safety Inspection is required. Document safety issues found and resolved.

Crew Safety Brief and Walk Around Inspection Completed by:_____

SAFETY MEETING NOTICE

DATE: _____

TIME: _____

PLACE:

_____

_____

FALL PROTECTION WORK PLAN
INSTRUCTIONS

A written fall protection work plan must be implemented by each employer on a job site where a fall hazard of 10 feet or greater exists. **The plan must be specific for each work site.**

THIS WORK PLAN WILL BE AVAILABLE ON THE JOB SITE FOR INSPECTION.

1. FILL OUT THE SPECIFIC JOB INFORMATION.

Company Name: _____

Job Name: _____ Date: _____

Job Address: _____ City: _____

Job Supervisor: _____ Jobsite Phone:_____

2. FALL HAZARDS IN THE WORK AREA

INCLUDE LOCATIONS AND DIMENSIONS FOR HAZARDS

Roof Pitch: _____

Roof Eave Height: _____

Skylight Opening: _____

Perimeter edge: _____

Other fall hazards in the work area:

Stairwell: _____

Elevator Shaft: _____

Leading Edge: _____

Roof Access Hatch: _____

_____

_____

3. METHOD OF FALL ARREST OR FALL RESTRAINT

(For fall protection equipment include details, such as manufacturer etc.)

Full body harness: _____

Lanyard: _____

Lifeline: _____

Guard rails: _____

Deceleration device: _____

Locking snap hooks: _____

Horizontal lifeline: _____

Catch platform: _____

Body belt (Restraint only): _____

Dropline: _____

Restraint line: _____

Rope grab: _____

Shock absorbing lanyard: _____

Safety nets: _____

Anchorage points: _____

Scaffolding platform: _____

Other:

_____

4. ASSEMBLY, MAINTENANCE, INSPECTION, DISASSEMBLY PROCEDURE

Assembly and disassembly of all equipment will be done according to manufacturers' recommended procedures.

Specific types of equipment on the job are:

_____

_____

A visual inspection of all safety equipment will be done daily or before each use. Any defective equipment will be tagged and removed from use immediately. The manufacturer's recommendations for maintenance and inspection will be followed.

_____

_____

5. HANDLING, STORAGE & SECURING OF TOOLS AND MATERIAL

Toe boards will be installed on all scaffolding to prevent tools and equipment from falling from scaffolding.

Other specific handling, storage and securing is as follows:

_____

_____

6. OVERHEAD PROTECTION

Hard hats are required on all job sites with the exception of those that have no exposure to overhead hazards. Warning signs will be posted to caution of existing hazards whenever they are present. In some cases, debris nets may be used if a condition warrants additional protection.

Additional overhead protection will include:

_____

_____

Toe boards (at least 4 inches in height) will be installed along the edge of scaffolding and walking surfaces for a distance sufficient to protect employees below. Where tools, equipment or materials are piled higher than the top of the toe board, paneling or screening will be erected to protect employees below.

7. INJURED WORKER REMOVAL

Normal first aid procedures should be performed as the situation arises. If the area is safe for entry, the first aid should be done by a foreman or other certified individual.

Initiate Emergency Services – Dial 911 (where available)

Phone location: _____
First aid location: _____
Elevator location: _____
Crane location: _____
Other: _____ Location: _____

Rescue considerations. When personal fall arrest systems are used, the employer must assure that employees can be promptly rescued or can rescue themselves should a fall occur. The availability of rescue personnel, ladders, or other rescue equipment should be evaluated. In some situations, equipment that allows employees to rescue themselves after the fall has been arrested may be desirable, such as devices that have descent capability.

Describe methods to be used for the removal of the injured worker(s):

_____

_____

_____

8. TRAINING AND INSTRUCTION PROGRAM

All new employees will be given instructions on the proper use of fall protection devices before they begin work. They will sign a form stating they have been given this information. This form becomes part of the employee's personnel file.

The written fall protection work plan will be reviewed before work begins on the job site. Those employees attending will sign below. The fall protection equipment use will be reviewed regularly at the weekly safety meetings.

Date: _____

_____ _____

_____ _____

_____ _____

_____ _____

_____ _____

_____ _____

_____ _____

_____ _____

Foreman or Job Superintendent: _____

Prior to permitting employees into areas where fall hazards exist, all employees must be trained regarding fall protection work plan requirements. Inspection of fall protection devices/systems must be made.

FALL PROTECTION TRAINING GUIDE FOR EMPLOYEES

Safety Belt, Harness and Lanyard Inspection and Maintenance

I. ANSI Classification:

Class I Body belts – used to restrain a person from falling.

Class II Chest harness – used for restraint purposes (NOT for vertical free fall hazards).

Class III Full body harness – used for fall arrest purposes. Can also be used for fall restraint.

Class IV Suspension/position belt – used to suspend or support the worker. If a fall arrest hazard exists this must be supplemented by use of a safety harness.

II. Inspection Guidelines:

To maintain their service life and high performance, all belts and harnesses must be inspected prior to each use for mildew, wear, damage and other deteriorations. Visual inspection before each use is just common sense. Periodic tests by a trained inspector for wear, damage or corrosion should be part of the safety program. Inspect your equipment daily and replace it if any of the defective conditions in this manual are found.

Belt inspection:

1. Beginning at one end, holding the body side of the belt toward you, grasp the belt with your hands six to eight inches apart. Bend the belt in an inverted "U" . The resulting surface tension makes damaged fibers or cuts easier to see.

2. Follow this procedure the entire length of the belt or harness. Watch for frayed edges, broken fibers, pulled stitches, cuts, or chemical damage.

3. Special attention should be given to the attachment of buckles and Dee Rings to webbing. Note any unusual wear, frayed or cut fibers, or distortion of the buckles or Dees.

4. Inspect for frayed or broken strands. Broken webbing strands generally appear as tufts on the webbing surface. Any broken, cut, or burned stitches will be readily seen.

5. Rivets should be tight and immovable with fingers. Body side rivet base and outside rivet burr should be flat against the material. Bent rivets will fail under stress.

   Especially note condition of Dee Ring rivets and Dee Ring metal wear pads (if any). Discolored, pitted or cracked rivets indicate chemical corrosion.

6. The tongue, or billet, of the belt receives heavy wear from repeated buckling and unbuckling. Inspect for loose, distorted, or broken grommets. Belts using punched holes without grommets should be checked for torn or elongated holes, causing slippage of the buckle tongue.

Safety Belt, Harness and Lanyard Inspection and Maintenance cont'd

7. Tongue Buckle:

   Buckle tongues should be free of distortion in shape and motion. They should overlap the buckle frame and move freely back and forth in their socket. Roller should turn freely on frame. Check for distortion or sharp edges.

8. Friction Buckle:

   Inspect the buckle for distortion. The outer bars and center bars must be straight. Pay special attention to corners and attachment to points of the center bar.

9. Sliding Bar Buckle:

   Inspect buckle frame and sliding bar for cracks, distortions, or sharp edges.

   Sliding bar should move freely. Knurled edge will slip if worn smooth. Pay special attention to corners and ends of sliding bar.

Lanyard inspection:

When inspecting lanyards, begin at one end and work to the opposite end. Slowly rotate the lanyard so that the entire circumference is checked. Spliced ends require particular attention. Hardware should be examined under procedures also detailed below, i.e., Snaps, Dee Ring, and Thimbles.

1. Steel

   While rotating the steel lanyard, watch for cuts, frayed areas, or unusual wearing patterns on the wire. Broken strands will separate from the body of the lanyards.

2. Webbing

   While bending webbing over a pipe or mandrel, observe each side of the webbed lanyard. This will reveal any cuts or breaks. Swelling, discolorations, cracks, and charring are obvious signs of chemical or heat damage. Observe closely for any breaks in stitching.

3. Rope

   Rotation of the rope lanyard while inspecting from end to end will bring to light any fuzzy, worn, broken, or cut fibers. Weakened areas from extreme loads will appear as a noticeable change in original diameter. The rope diameter should be uniform throughout, following a short break-in-period.

FALL PROTECTION TRAINING GUIDE FOR EMPLOYEES

Fall Protection System Considerations

Below are guidelines for worker protection where fall arrest or fall restraint systems are used.

1. Selection and use considerations:

   The kind of personal fall arrest system selected should match the particular work situation, and any possible free fall distance should be kept to a minimum. Consideration should be given to the particular work environment. For example, the presence of acids, dirt, moisture, oil, grease, etc., and their effect on the system, should be evaluated. Hot or cold environments may also have an adverse affect on the system. Wire rope should not be used where an electrical hazard is anticipated. As required by the standard, the employer must plan to have means available to promptly rescue an employee should a fall occur, since the suspended employee may not be able to reach a work level independently.

   Where lanyards, connectors, and lifelines are subject to damage by work operations such as welding, chemical cleaning, and sandblasting, the component should be protected, or other securing systems should be used. The employer should fully evaluate the work conditions and environment (including seasonal weather changes) before selecting the appropriate personal fall protection system. Once in use, the system's effectiveness should be monitored. In some cases, a program for cleaning and maintenance of the system may be necessary.

2. Testing considerations:

   Before purchasing or putting into use a personal fall arrest system, an employer should obtain from the supplier information about the system based on its performance during testing so that the employer can know if the system meets this standard. Testing should be done using recognized test methods. Not all systems may need to be individually tested; the performance of some systems may be based on data and calculations derived from testing of similar systems, provided that enough information is available to demonstrate similarity of function and design.

3. Component compatibility considerations:

   Ideally, a personal fall arrest system is designed, tested, and supplied as a complete system. However, it is common practice for lanyards, connectors, lifelines, deceleration devices, and body harnesses to be interchanged since some components wear out before others. The employer and employee should realize that not all components are interchangeable. For instance, a lanyard should not be connected between a body harness and a deceleration device of the self-retracting type since this can result in additional free fall for which the system was not designed. Any substitution or change to a personal fall arrest system should be fully evaluated or tested by a competent person to determine that it meets the standard, before the modified system is put in use.

FALL PROTECTION TRAINING GUIDE FOR EMPLOYEES

Fall Protection System Considerations cont'd

4. Employee training considerations:

Thorough employee training in the selection and use of personal fall arrest systems is imperative. As stated in the standard, before the equipment is used, employees must be trained in the safe use of the system. This should include the following: Application limits; proper anchoring and tie-off techniques; estimation of free fall distance, including determination of deceleration distance, and total fall distance to prevent striking a lower level; methods of use; and inspection and storage of the system. Careless or improper use of the equipment can result in serious injury or death. Employers and employees should become familiar with this material, as well as manufacturer's recommendations, before a system is used. Of uppermost importance is the reduction in strength caused by certain tie-offs (such as using knots, tying around sharp edges, etc.) and maximum permitted free fall distance. Also, to be stressed are the importance of inspections prior to use, the limitations of the equipment, and unique conditions at the worksite which may be important in determining the type of system to use.

5. Instruction considerations:

Employers should obtain comprehensive instructions from the supplier as to the system's proper use and application, including, where applicable:

a. The force measured during the sample force test;
b. The maximum elongation measured for lanyards during the force test;
c. The deceleration distance measured for deceleration devices during the force test;
d. Caution statements on critical use limitations;
e. Application limits;
f. Proper hook-up, anchoring and tie-off techniques, including the proper dee-ring or other attachment point to use on the body harness for fall arrest;
g. Proper climbing techniques;
h. Methods of inspection, use, cleaning, and storage; and
i. Specific lifelines that may be used. This information should be provided to employees during training.

6. Inspection considerations:

Personal fall arrest systems must be regularly inspected. Any component with any significant defect, such as cuts, tears, abrasions, mold, or undue stretching; alterations or additions which might affect its efficiency; damage due to deterioration; contact with fire, acids, or other corrosives; distorted hooks or faulty hook springs; tongues unfitted to the shoulder of buckles; loose or damaged mountings; nonfunctioning parts; or wearing or internal deterioration in the ropes must be withdrawn from service immediately, and should be tagged or marked as unusable, or destroyed.

FALL PROTECTION TRAINING GUIDE FOR EMPLOYEES

Fall Protection System Considerations cont'd

7. Rescue considerations:

   When personal fall arrest systems are used, the employer must assure that employees can be promptly rescued or can rescue themselves should a fall occur. The availability of rescue personnel, ladders or other rescue equipment should be evaluated. In some situations, equipment that allows employees to rescue themselves after the fall has been arrested may be desirable, such as devices that have descent capability.

8. Tie-off considerations:

   a. One of the most important aspects of personal fall protection systems is fully planning the system before it is put into use. Probably the most overlooked component is planning for suitable anchorage points. Such planning should ideally be done before the structure or building is constructed so that anchorage points can be incorporated during construction for use later for window cleaning or other building maintenance. If properly planned, these anchorage points may be used during construction, as well as afterwards.

   b. Employers and employees should at all times be aware that the strength of a personal fall arrest system is based on its being attached to an anchoring system which does not significantly reduce the strength of the system (such as a properly dimensioned eye-bolt/snap-hook anchorage). Therefore, if a means of attachment is used that will reduce the strength of the system, that component should be replaced by a stronger one, but one that will also maintain the appropriate maximum arrest force characteristics.

   c. Tie-off using a knot in a rope lanyard or lifeline (at any location) can reduce the lifeline or lanyard strength by 50 percent or more. Therefore, a stronger lanyard or lifeline should be used to compensate for the weakening effect of the knot, or the lanyard length should be reduced (or the tie-off location raised) to minimize free fall distance, or the lanyard or lifeline should be replaced by one which has an appropriately incorporated connector to eliminate the need for a knot.

   d. Tie-off of a rope lanyard or lifeline around an "H" or "I" beam or similar support can reduce its strength as much as 70 percent due to the cutting action of the beam edges. Therefore, a webbing lanyard or wire core lifeline should be used around the beam; or the lanyard or lifeline should be protected from the edge; or free fall distance should be greatly minimized.

Fall Protection System Considerations cont'd

e. Tie-off where the line passes over or around rough or sharp surfaces reduces strength drastically. Such a tie-off should be avoided or an alternative tie-off rigging should be used. Such alternatives may include use of a snap-hook/dee-ring connection, wire rope tie-off, an effective padding of the surfaces, or an abrasion-resistance strap around or over the problem surface.

f. Horizontal lifelines may, depending on their geometry and angle of sag, be subjected to greater loads than the impact load imposed by an attached component. When the angle of horizontal lifeline sag is less than 30 degrees, the impact force imparted to the lifeline by an attached lanyard is greatly amplified. For example, with a sag angle of 15 degrees, the force amplification is about 2:1 and at 5 degrees sag, it is about 6:1. Depending on the angle of sag, and the line's elasticity, the strength of the horizontal lifeline and the anchorages to which it is attached should be increased a number of times over that of the lanyard. Extreme care should be taken in considering a horizontal lifeline for multiple tie-offs. The reason for this is that in multiple tie-offs to a horizontal lifeline, if one employee falls, the movement of the falling employee and the horizontal lifeline during arrest of the fall may cause other employees to also fall. Horizontal lifeline and anchorage strength should be increased for each additional employee to be tied-off. For these and other reasons, the design of systems using horizontal lifelines must only be done by qualified persons. Testing of installed lifelines and anchors prior to use is recommended.

g. The strength of an eye-bolt is rated along the axis of the bolt and its strength is greatly reduced if the force is applied at an angle to this axis (in the direction of shear). Also, care should be exercised in selecting the proper diameter of the eye to avoid accidental disengagement of snap-hooks not designed to be compatible for the connection.

h. Due to the significant reduction in the strength of the lifeline/lanyard (in some cases, as much as a 70 percent reduction), the sliding hitch knot should not be used for lifeline/lanyard connections except in emergency situations where no other available system is practical. The "one-and-one" sliding hitch knot should never be used because it is unreliable in stopping a fall. The "two-and-two," or "three-and-three" knot (preferable), may be used in emergency situations; however, care should be taken to limit free fall distance to a minimum because of reduced lifeline/lanyard strength.

9. Vertical lifeline considerations.

As required by the standard, each employee must have a separate lifeline when the lifeline is vertical. The reason for this is that in multiple tie-offs to a single lifeline, if one employee falls, the movement of the lifeline during the arrest of the fall may pull other employees' lanyards, causing them to fall as well.

FALL PROTECTION TRAINING GUIDE FOR EMPLOYEES

Fall Protection System Considerations cont'd

10. Snap-hook considerations:

    a. Required by this standard for all connections, locking snap-hooks incorporate a positive locking mechanism in addition to the spring loaded keeper, which will not allow the keeper to open under moderate pressure without someone first releasing the mechanism. Such a feature, properly designed, effectively prevents roll-out from occurring.

    b. The following connections must be avoided (unless properly designed locking snap-hooks are used) because they are conditions which can result in roll-out when a nonlocking snap-hook is used:

    - Direct connection of a snap-hook to a horizontal lifeline.
    - Two (or more) snap-hooks connected to one dee-ring.
    - Two snap-hooks connected to each other.
    - A snap-hook connected back on its integral lanyard.
    - A snap-hook connected to a webbing loop or webbing lanyard.
    - Improper dimensions of the dee-ring, rebar, or other connection point in relation to the snap-hook dimensions which would allow the snap-hook keeper to be depressed by a turning motion of the snap-hook.

11. Free fall considerations:

    The employer and employee should at all times be aware that a system's maximum arresting force is evaluated under normal use conditions established by the manufacturer, and in no case using a free fall distance in excess of 6 feet (1.8 m). A few extra feet of free fall can significantly increase the arresting force on the employee, possibly to the point of causing injury. Because of this, the free fall distance should be kept at a minimum, and, as required by the standard, in no case greater than 6 feet (1.8 m). To help assure this, the tie-off attachment point to the lifeline or anchor should be located at or above the connection point of the fall arrest equipment to harness. (Since otherwise additional free fall distance is added to the length of the connecting means (i.e. lanyard).) Attaching to the working surface will often result in a free fall greater than 6 feet (1.8 m). For instance, if a 6-foot (1.8 m) lanyard is used, the total free fall distance will be the distance from the working level to the body harness attachment point plus the 6 feet (1.8 m) of lanyard length. Another important consideration is that the arresting force that the fall system must withstand also goes up with greater distances of free fall, possibly exceeding the strength of the system.

FALL PROTECTION TRAINING GUIDE FOR EMPLOYEES

Fall Protection System Considerations cont'd

12. Elongation and deceleration distance considerations.

    Other factors involved in a proper tie-off are elongation and deceleration distance. During the arresting of a fall, a lanyard will experience a length of stretching or elongation, whereas activation of a deceleration device will result in a certain stopping distance. These distances should be available with the lanyard or device's instructions and must be added to the free fall distance to arrive at the total fall distance before an employee is fully stopped. The additional stopping distance may be very significant if the lanyard or deceleration device is attached near or at the end of a long lifeline, which may itself add considerable distance due to its own elongation. As required by the standard, sufficient distance to allow for all of these factors must also be maintained between the employee and obstructions below, to prevent an injury due to impact before the system fully arrests the fall. In addition, a minimum of 12 feet (3.7 m) of lifeline should be allowed below the securing point of a rope grab type deceleration device, and the end terminated to prevent the device from sliding off the lifeline. Alternatively, the lifeline should extend to the ground or the next working level below. These measures are suggested to prevent the worker from inadvertently moving past the end of the lifeline and having the rope grab become disengaged from the lifeline.

13. Obstruction considerations:

    The location of the tie-off should also consider the hazard of obstructions in the potential fall path of the employee. Tie-offs that minimize the possibilities of exaggerated swinging should be considered.

14. Other considerations:

    Because of the design of some personal fall arrest systems, additional considerations may be required for proper tie-off. For example, heavy deceleration devices of the self-retracting type should be secured overhead in order to avoid the weight of the device having to be supported by the employee. Also, if self-retracting equipment is connected to a horizontal lifeline, the sag in the lifeline should be minimized to prevent the device from sliding down the lifeline to a position that creates a swing hazard during fall arrest. In all cases, manufacturer's instructions should be followed.

Construction Self-Inspection Guide

- ☐ **Power lines**: Minimum 10' clearance / insulate – de-energize, under 50 kw; over 50 kw – refer to Chapter 155
- ☐ **Trench/excavation**: Any trench four feet or must be sloped, shored or braced
- ☐ **Guardrails**: Any opening four feet or more above ground level must be guarded
- ☐ **Standard guardrail**: Top rail = 39" to 45" above working surface. Midrail = halfway between top rail and floor. Toeboard = 4".
- ☐ **Scaffold**: Fully planked
- ☐ **Scaffold**: Fall protection provided if fall hazards over 10 feet exist
- ☐ **Stairs**: Four or more risers must have handrails
- ☐ **Fall protection**: Any exposure to fall hazards of 10' or greater must be eliminated by the use of safety harness/belt, lanyard or lifeline, horizontal lines, or cantenary lines. Positive fall restraint/protection must be utilized at all times. Two lanyards may be necessary at the beam/upright traverse points. No exposure at any time is allowed.
- ☐ **Fall protection work plan**: Job specific, in writing; available on-site for all fall hazards above 10'.
- ☐ **Open belts and pulleys, chains and sprockets, points of operation** must be guarded to prevent accidental contact. Air compressors and electric motor pulleys are the most common hazards.
- ☐ **Radial saws**: Cutting head must return easily to start position when released; blade must not extend past the edge of the worktable; off/on switch should be at front of operator's position.
- ☐ **Table saws**: Upper hood guard; anti-kickback, push stick, belt and pulley guarded
- ☐ **Circular saws**: Blade guard instantly returns to covering position
- ☐ **Never wedge or pin a guard.**
- ☐ **Chain saw**: Ballistic nylon leg protection; eye, ear, face protection; hard hat
- ☐ **Angle grinders**: 180-degree guard required
- ☐ **Ladders**: Extended 36" above landing and secured to prevent displacement
- ☐ **Articulating boomlift**: Safety harness and lanyard at all times
- ☐ **Floor holes/openings**: Covered and secured; be sure no tripping hazards in the area.
- ☐ **Extension cords/electric power tools**: Marked/covered by Assured Grounding Program
- ☐ **Clothing**: Minimum of short sleeve shirts, long pants, and substantial footwear; no recreational shoes
- ☐ **Hard hats**: readily accessible at all times; worn when overhead hazard exists
- ☐ **Oxygen/acetylene storage areas**: Cylinders chained and separated
- ☐ **Personal protective equipment**: Head, eye, ear, respiratory, and leg protection – high visibility vests when required
- ☐ **Housekeeping**: Workers are responsible for their own area of exposure
- ☐ **First aid/fire extinguishers**: Available and readily accessible
- ☐ **First aid trained personnel**: Minimum of one person on-site at all times with first aid CPR training.
- ☐ **Accident Prevention Program**: In written format
- ☐ **Crew Leader Meetings**: At beginning of each job and at least weekly thereafter. Documented
- ☐ **Chemical hazard communication program**

Safety and Health Inspection Check List – 1

Job site: _____ Date: _____

This format is intended only as a reminder to look for unsafe practices, potential and/or near miss incidents.

(**S**) indicates **S**atisfactory (**U**) indicates **U**nsatisfactory

Date of inspection/walk around												
Machinery												
Point of operation guard												
Belts, pulleys, gears, shafts, etc.												
Oiling, cleaning, and adjusting												
Maintenance and oil leaks												
Pressure equipment												
Steam equipment												
Air Receivers and Compressors												
Gas cylinders and hoses												
Unsafe Practices												
Excessive speed of vehicles												
Improper lifting												
Smoking in dangerous places												
Horseplay												
Running in aisles or on stairs												
Improper use of air hoses												
Removing machine guards												
Working under suspended loads												
Working on machines in motion												
First aid												
First aid kits												
Stretchers and fire blankets												
Emergency showers												
Eyewash stations												
All injuries and illnesses reported												
Hazard Communications												
Acids and caustics												
Solvents												
Dusts, vapors, or fumes												
Radiation												
New chemicals/processes												

Safety and Health Inspection Check List 1–continued

Job site: _____ Date: _____

(**S**) indicates **S**atisfactory (**U**) indicates **U**nsatisfactory

Date of inspection/walk around												
Tools												
Power tools, wiring and grounding												
Hand tools (condition)												
Use and storage of tools												
Personal protective equipment												
Goggles or face shield												
Substantial footwear												
Hard hats												
Gloves												
Respirators												
Fall protection equipment												
Other protective clothing												
Fire protection												
Extinguishing equipment												
Exits, stairs, and signs												
Storage of flammable materials												
Material Handling Equipment												
Power trucks and hand trucks												
Elevators												
Cranes and hoists												
Conveyors												
Cables, ropes, chains, slings												
Housekeeping												
Aisles, stairs and floors												
Storage and piling of materials												
Wash and locker rooms												
Light and ventilation												
Disposal of water												
Yards and parking lots												
Bulletin boards												
Only safety and health materials posted												
Neat and attractive												
Display regularly changed												
Well-illuminated												

Safety and Health Inspection Check List – 2

A = Adequate at time of inspection
B = Needs immediate attention

A	B	
		1. JOB SITE INFORMATION
☐	☐	Job site Safety and Warning posters posted
☐	☐	Scheduled safety meetings held and documented
☐	☐	Adequate employee training – general and specific
☐	☐	Medical services, first aid equipment, stretchers and a qualified first aider available
☐	☐	Emergency telephone numbers posted (medical services, fire department, police)
		2. HOUSEKEEPING AND SANITATION
☐	☐	Working areas generally neat
☐	☐	Waste and trash regularly disposed
☐	☐	Enclosed chute provided when material dropped outside of building from over 20 feet
☐	☐	Lighting adequate for all work tasks
☐	☐	Projecting nails removed or bent over
☐	☐	Oil and grease removed from walkways and stairs
☐	☐	Waste containers provided and used
☐	☐	Sanitary facilities adequate and clear
☐	☐	Potable water available for drinking
☐	☐	Disposable drinking cups and container for used cups provided
		3. FIRE PREVENTION
☐	☐	Fire protection program developed
☐	☐	Fire instructions provided to personnel
☐	☐	Proper type and number of fire extinguishers, identified, checked and accessible
☐	☐	Phone number of fire department posted
☐	☐	Hydrants clear, access open
☐	☐	NO SMOKING signs posted and enforced where needed
☐	☐	Temporary heating devices safe. Adequate ventilation provided
		4. ELECTRICAL INSTALLATIONS
☐	☐	Adequate wiring, well insulated, grounded, protected from damage
☐	☐	Assured grounding program followed **(OR**)
☐	☐	Ground fault circuit interrupters used
☐	☐	Terminal boxes equipped with required covers
		5. HAND TOOLS
☐	☐	Proper tools being used for each job
☐	☐	Safe carrying practices used
☐	☐	Company and employees' tools regularly inspected and maintained

Safety and Health Inspection Check List 2– continued

A = Adequate at time of inspection
B = Needs immediate attention

A	B	
		6. POWER TOOLS
☐	☐	Good housekeeping where tools are used
☐	☐	Tools and cords in good condition
☐	☐	Proper grounding of all tools (**OR**)
☐	☐	Double insulated tools used
☐	☐	Proper instruction in use provided
☐	☐	All mechanical guards in use
☐	☐	Tools neatly stored when not in use.
☐	☐	Right tool being used for the job at hand
☐	☐	Wiring properly installed
		7. POWDER-ACTUATED TOOLS
☐	☐	All operators licensed
☐	☐	Tools and charges protected from unauthorized use
☐	☐	Competent instruction and supervision provided
☐	☐	Tools used only on recommended materials
☐	☐	Flying hazards checked by backing up, removal of personnel, or use of captive stud tool
		8. LADDERS
☐	☐	Ladders inspected and in good condition
☐	☐	Ladders properly secured to prevent slipping, sliding or falling
☐	☐	Side rails extended 36” above the top of landing
☐	☐	Job-built ladders properly constructed
☐	☐	Stepladders fully open when in use
☐	☐	Metal ladders not used around electrical hazards
☐	☐	Ladders not painted
☐	☐	Ladders properly stored
☐	☐	Ladder safety feet in use
		9. HEAVY EQUIPMENT
☐	☐	Inspection and maintenance records up to date
☐	☐	Lights, brakes, warning signals operative
☐	☐	Wheels chocked when necessary
☐	☐	Haul roads well maintained and properly laid out
☐	☐	Equipment is properly secured when not in use
☐	☐	Shut-off devices on hose air lines, in case of hose failure
☐	☐	Noise arrestors in use
☐	☐	ROPS in place

Safety and Health Inspection Check List 2– continued

A = Adequate at time of inspection
B = Needs immediate attention

A	B	
		10. SCAFFOLDING
☐	☐	Erection properly supervised
☐	☐	All structural members meet safety factors
☐	☐	All connections secure
☐	☐	Scaffold tied in to the structure when required
☐	☐	Working areas free of debris, snow, ice and grease
☐	☐	Foot sills and mud sills provided
☐	☐	Workers protected from falling objects
☐	☐	Scaffolds plumb and square, with cross-bracing
☐	☐	Guard rails, intermediate rails, and toeboards in place
☐	☐	Adequate, sound planking provided
☐	☐	Scaffold equipment in good working order
☐	☐	Ropes and cables in good condition
		11. MOTOR VEHICLES
☐	☐	Roadways or walkway hazards effectively barricaded
☐	☐	Barricades illuminated or reflectorized at night
☐	☐	Traffic control devices used when appropriate
☐	☐	Inspection and maintenance records up to date
☐	☐	Operators qualified for vehicles in use
☐	☐	Local and state vehicle laws and regulations observed
☐	☐	Brakes, lights, warning devices operative
☐	☐	Weight limits and load sizes controlled
☐	☐	Personnel transported in a safe manner
☐	☐	All glass in good condition
☐	☐	Back-up signals provided
☐	☐	Fire extinguishers installed where required
☐	☐	SLOW MOVING VEHICLE signs used when required
		12. HOISTS, CRANES AND DERRICKS
☐	☐	Cables and sheaves regularly inspected
☐	☐	Slings and chains, hooks and eyes inspected before each use
☐	☐	Equipment firmly supported
☐	☐	Outriggers used if needed
☐	☐	Power lines inactivated, removed, or at a safe distance
☐	☐	Proper loading for capacity at lifting radius. Rated load capacities posted?
☐	☐	All equipment properly lubricated and maintained
☐	☐	Signalpersons where needed
☐	☐	Signals posed, understood, and observed
☐	☐	Inspection and maintenance logs maintained
☐	☐	Hazard signs posted and visible to operator

Safety and Health Inspection Check List 2– continued

A = Adequate at time of inspection
B = Needs immediate attention

A	B	
		13. BARRICADES
☐	☐	Floor and wall openings planked over or barricaded
☐	☐	Roadways or walkway hazards effectively barricaded
☐	☐	Barricades illuminated or reflectorized at night
☐	☐	Traffic control devices used when appropriate
		14. HANDLING AND STORAGE OF MATERIALS
☐	☐	Materials properly stored or stacked
☐	☐	Passageways clear
☐	☐	Stacks on firm footings, not too high
☐	☐	Materials protected against weather conditions
☐	☐	Trash chutes safeguarded and properly used
☐	☐	Dust protection observed
☐	☐	Traffic controlled in the storage area

A	B	
		15. FLAMMABLE GASES AND LIQUIDS
☐	☐	All containers approved and clearly identified
☐	☐	Proper storage practices observed
☐	☐	Fire hazards checked
☐	☐	Proper types and number of extinguishers nearby
☐	☐	Proper method for moving cylinders used
		16. PERSONAL PROTECTIVE EQUIPMENT MONITORED BY SUPERVISORS
☐	☐	Hard hats available on-site; worn when overhead hazards exist
☐	☐	Eye protection
☐	☐	Face shields
☐	☐	Written respirator program; respirators fit-tested; replacement cartridges; cleaning and maintenance
☐	☐	Helmets and hoods
☐	☐	Hearing protection – noise monitoring; written program
☐	☐	Foot protection
☐	☐	Rubber or plastic gloves, aprons, and sleeves for chemical protection
☐	☐	Electrician’s rubber gloves and protectors

Safety and Health Inspection Check List 2– continued

A = Adequate at time of inspection
B = Needs immediate attention

A	B	
		17. LIFTING AND BACK SAFETY
☐	☐	Team lifting used for heavy or awkward loads
☐	☐	Mechanical lifting devices used when appropriate
☐	☐	Back care training provided to all employees
☐	☐	Bent-knee lifting used by workers
☐	☐	Work hardening program used for returning time-loss employees
☐	☐	Employees do “warm up” exercises before strenuous work
		18. HAZARD COMMUNICATION PROGRAM
☐	☐	Chemical inventory list developed and maintained
☐	☐	Containers properly labeled
☐	☐	Material Safety Data Sheets collected and available
☐	☐	Adequate employee information and training provided
☐	☐	Written program available
		19. CONFINED SPACE
☐	☐	Written confined space program
☐	☐	Competent instruction and supervisors provided
☐	☐	Hot work permits obtained, if needed, prior to entry and work
☐	☐	Evaluation and monitoring – sampling devices adequate, calibrated, and used
☐	☐	Ventilation adequate, testing and monitoring during operation
☐	☐	Respirators, standby person , harness/lifeline at the site
☐	☐	**20. DEMOLITION**
☐	☐	Written demolition plan
☐	☐	Protection of adjacent structures
☐	☐	Material chutes used. Floor openings for material disposal barricaded
☐	☐	Sidewalk and other public protection provided
☐	☐	Clear opening space for trucks and other vehicles
☐	☐	Adequate access ladders or stairs maintained

Equipment Safety Inspection Checklist

Date: _____

Project: _____

Equipment: _____

All guards and fenders	_____	OK	_____	Needs Repair
Brakes	_____	OK	_____	Needs Repair
Lights – front, rear, side, dash	_____	OK	_____	Needs Repair
Back-up alarm – horn	_____	OK	_____	Needs Repair
Ladders, stairs, hand holds	_____	OK	_____	Needs Repair
ROPS (Roll-over protection)	_____	OK	_____	Needs Repair
Seat belts	_____	OK	_____	Needs Repair
Fire extinguisher	_____	OK	_____	Needs Repair
Glass	_____	OK	_____	Needs Repair
Tires	_____	OK	_____	Needs Repair
Electrical cords	_____	OK	_____	Needs Repair
Ground fault circuit interrupters	_____	OK	_____	Needs Repair
Electrical hand tools	_____	OK	_____	Needs Repair
Powder actuated tools	_____	OK	_____	Needs Repair
Pneumatic condition of all hand tools	_____	OK	_____	Needs Repair

Other Items Checked:

Oil level and leaks	___	OK	___	Needs Repair	___	Add	___ Change
Hydraulic oil level and leaks	___	OK	___	Needs Repair	___	Add	___ Change
Anti-freeze level and leaks	___	OK	___	Needs Repair	___	Add	___ Change
Fuel level and leaks	___	OK	___	Needs Repair	___	Add	___ Change
First aid kit	___	OK	___	Needs Repair	___	Add	___ Change

Repaired by: _____

Checked by: _____

JOB SAFETY ANALYSIS WORKSHEET

TITLE OF JOB OPERATION: _____ Date: _____

Title of person who does job: _____

Employee observed: _____ Location: _____

Analysis made by: _____ Analysis approved by: _____

Sequence of basic job steps	Potential injuries or hazards	Recommended safe job procedures

Outdoor Heat Exposure

Purpose: To reduce the risk of illness, injury or fatality to employees and sub-contractors hired by JRC Incorporated.

Scope: The following requirements are only in effect during the months of May through September each year for all construction projects or positions having outdoor heat exposure:

Table 1:

All other clothing	89°
Double-layer woven clothes including coveralls, jackets and sweatshirts	77°
Nonbreathing clothes including vapor barrier clothing or PPE such as chemical resistant suits	52°

Training: Each year prior to the month of May, all employees working in the categories listed above will be provided training on signs and symptoms of outdoor heat exposure and on the company policies to prevent heat-related illness. Additional training will be scheduled for a make-up class as needed. When new employees are hired during the summer months, training will be provided prior to the new employee working in the outdoor environment.

Employee Training Content: Training on the following topics will be provided to all employees who may be exposed to outdoor heat at or above the temperatures listed in Table 1:

(a) The environmental factors that contribute to the risk of heat-related illness;

(b) General awareness of personal factors that may increase susceptibility to heat-related illness including, but not limited to, an individual's age, degree of acclimatization, medical conditions, drinking water consumption, alcohol use, caffeine use, nicotine use, and use of medications that affect the body's responses to heat. This information is for the employee's personal use;

(c) The importance of removing heat-retaining personal protective equipment such as non-breathable chemical resistant clothing during all breaks;

(d) The importance of frequent consumption of small quantities of drinking water or other acceptable beverages;

(e) The importance of acclimatization;

(f) The different types of heat-related illness, the common signs and symptoms of heat-related illness; and

(g) The importance of immediately reporting signs or symptoms of heat-related illness in either themselves or in co-workers to the person in charge and the procedures the employee must follow including appropriate emergency response procedures.

Supervisor Training Content: Prior to supervising employees working in outdoor environments with heat exposure at or above the temperature levels listed in Table 1 supervisors will be given training on the following topics:

(a) The information required to be provided to employees listed in subsection (1) of this section;

(b) The procedures the supervisor must follow if an employee exhibits signs or symptoms consistent with possible heat-related illness, including appropriate emergency response procedures; and

(c) Procedures for moving or transporting an employee(s) to a place where the employee(s) can be reached by an emergency medical service provider, if necessary.

Drinking Water: On days when the temperature is at or above those listed in Table 1 of the regulation, employees will be provided a sufficient quantity of drinking water which is readily accessible at their work location. The water quantity will be sufficient to allow each employee to drink at least a quart or more of water each hour.

[**Note**: Drinking water packaged as a consumer product and electrolyte-replenishing beverages such as sports drinks that do not contain caffeine are acceptable.]
As the temperature increases through the day, additional water will be made available or replaced. It is the responsibility of this employer to ensure that the supply of available drinking water does not run out.

Responding to Signs and Symptoms. Time is critical when people are experiencing heat stress/heat stroke. The quicker any employee experiencing symptoms can be removed from the heat and cooled down, the better the chances are for a full recovery. On days when the temperatures will be at or above those listed in Table 1 the company will:

- Monitor all employees and sub-contractors to ensure adequate water consumption.
- Monitor heat index and stop outdoor construction activities if deemed unsafe. Work should be very limited at heat index of 100 degrees Fahrenheit and above.
- Provide additional breaks away from direct sunlight to allow employees and sub-contractors to cool.

Never leave an employee who is experiencing heat-related problems by themselves; if they do not respond quickly to cooling attempts, immediately call emergency medical services. If a co-worker is experiencing difficulty, do not hesitate to bring it to the attention of the supervisor or lead worker.

CHEMICAL HAZARD COMMUNICATION PROGRAM

Purpose

This program is designed to ensure that all employees are provided with the information and training that they need to work safety with the chemicals and materials that will be used on our projects.

Scope

Applies to all JRC, Inc.'s employees. When work is performed on a non-owned or operated site, the operator's program shall take precedence, however, this document covers JRC, Inc.'s employees and shall be used on owned premises, or when an operator's program doesn't exist or is less stringent.

Procedure

This program is designed to meet the requirements of the "Federal Hazard Communication" Standard. Outlined in the program are the steps that this company will follow in meeting the training and informational requirements of the law. This program will provide employees with all the information concerning hazardous chemicals that they need to safely perform their jobs. If any additional information is needed, employees are encouraged to request the information through their supervisors.

Our Safety Director has been assigned the responsibility of insuring that the provisions of the Hazardous Chemical Right to Know Law have been complied with, and any questions concerning this program should be directed to him. The safety director will ensure that this program and MSDS are maintained at each job site.

A. Administrator and Designated Trainers
The administrator of this program will be our Safety Director. He/she will oversee both the initial training and our ongoing training program. A roster of the employees trained under this program will be kept in our corporate offices. Training of new employees will be conducted by their supervisor.

B. Annual Refresher Training
Our company will annually dedicate a safety meeting to the subject of hazardous materials. During this meeting, the SDS on all hazardous materials regularly used by our employees will be discussed. In addition, proper handling procedures, container labeling, and first aid procedures will be reviewed. Prior to this meeting, the Hazardous Chemical List will be reviewed and updated as needed.

C. Hazard Determination Program
The administrator of the program will develop and maintain a list of the hazardous chemicals used by this company. The list will be edited for each project to ensure that an accurate list is available for each project. The administrator will use the list to acquire necessary information about each chemical (SDS) and determine if it is hazardous.

Person responsible for program: Safety Director
Person assigned to hazardous chemical evaluation, including obtaining SDS for all chemicals: Safety Director

Chemicals used or produced in this company will be evaluated by the following program to determine if they are hazardous or not:

<u>For Chemicals Used:</u>
Safety Data Sheets (SDS) are used to evaluate whether or not supplied chemicals are hazardous. Chemicals which are health hazards will be designated as such by having ingredients that are listed in the hazardous ingredients section.

<u>For Chemicals Produced:</u> (such as intermediate products, welding fumes, carbon monoxide and wood dust)
SDS's or equivalents are produced internally or obtained from the Tennessee Department of Labor. Chemicals for which there is scientifically valid evidence that it is a combustible liquid, a compressed gas, explosive, flammable, an organic peroxide, an oxidizer, pyrophoric, unstable (reactive) or water reactive are considered hazardous, and defined as physical hazards.

Chemicals found in the following publications will automatically be considered as health hazards:

1. 29 CFR 1910, Subpart Z, "Toxic and Hazardous Substances", (OSHA);
2. "Threshold Limit Values and Biological Exposure Indices", latest edition), American Conference of Governmental Industrial Hygienists (ACGIH); and, for chemicals that are carcinogens or potential carcinogens;
3. a. National Toxicology Program (NTP), "Annual Report on Carcinogens", (latest edition);
   b. International Agency for Research on Cancer (IARC), "Monographs", (latest edition);
   c. 29 CFR 1910, Subpart Z, "Toxic and Hazardous Substances", Occupational Safety and Health Administration.

D. Location of Safety Data Sheets

SDS's will be kept in an open file located in the main office and/or jobsite trailer. Supervisors will also carry a copy of the SDS's in their truck. Employees are encouraged to review these sheets as often as they feel necessary. Anyone wishing to copy a SDS for their own use is encouraged to do so, but the original must not be removed from the file.

E. Warning Labels

Containers that have hazardous chemicals inside will be marked with warning labels. Since we do not produce or re-package any hazardous chemicals, our responsibilities are limited to insuring that hazardous chemicals are properly labeled when they arrive. Improperly marked containers will not be accepted. Employees will not remove or deface warning labels. During training, employees will be familiarized with the Hazardous Material Identification System and the Global Harmonization Pictograph system.

Labels will require the following elements:

- **Pictogram:** a symbol plus other graphic elements, such as a border, background pattern, or color that is intended to convey specific information about the hazards of a chemical. Each pictogram consists of a different symbol on a white background within a red square frame set on a point (i.e. a red diamond). There are nine pictograms under the GHS. However, only eight pictograms are required under the HCS.
- **Signal words:** a single word used to indicate the relative level of severity of hazard and alert the reader to a potential hazard on the label. The signal words used are "danger" and "warning." "Danger" is used for the more severe hazards, while "warning" is used for less severe hazards.
- **Hazard Statement:** a statement assigned to a hazard class and category that describes the nature of the hazard(s) of a chemical, including, where appropriate, the degree of hazard.
- **Precautionary Statement:** a phrase that describes recommended measures to be taken to minimize or prevent adverse effects resulting from exposure to a hazardous chemical, or improper storage or handling of a hazardous chemical.

Additional Information:

HCS Pictograms and Hazards

Health Hazard 	**Flame** 	**Exclamation Mark** 
• Carcinogen • Mutagenicity • Reproductive Toxicity • Respiratory Sensitizer • Target Organ Toxicity • Aspiration Toxicity	• Flammables • Pyrophorics • Self-Heating • Emits Flammable Gas • Self-Reactives • Organic Peroxides	• Irritant (skin and eye) • Skin Sensitizer • Acute Toxicity (harmful) • Narcotic Effects • Respiratory Tract Irritant • Hazardous to Ozone Layer (Non Mandatory)
Gas Cylinder 	**Corrosion** 	**Exploding Bomb** 
• Gases under Pressure	• Skin Corrosion/ burns • Eye Damage • Corrosive to Metals	• Explosives • Self-Reactives • Organic Peroxides
Flame over Circle 	**Environment (Non Mandatory)** 	**Skull and Crossbones** 
• Oxidizers	• Aquatic Toxicity	• Acute Toxicity (fatal or toxic)

F. Location of Employee Rights Poster
A poster that outlines employee rights under this law will be posted on the employee bulletin board. Employees who have any questions that cannot be answered by the supervisor will be directed to our office.

G. Training of New Employees?
Any new employee will be thoroughly trained in the elements of the "Right to Know Law" prior to entering a workplace where he may be exposed to hazardous materials. This training will be done by their supervisor and consist of reviewing the elements of the law and pertinent parts of the Material Safety Data Sheets in the "Right to Know" file. Particular emphasis will be placed on employee recall. The training outline contained in Section III will be used as a guide to ensure the quality of this training. Workers will fill out the Hazard Communication worksheet as they undergo training.

H. Methods Used to Inform Employees of the Hazards of Non-Routine Tasks
Employees involved in non-routine tasks (such as tank cleaning and maintenance) will be informed of the hazards involved, and trained at specific training sessions so as to ensure awareness of required information.

I. Methods Used to Inform Contractor/Subcontractor Employers
Subcontractors who may be exposed to hazardous chemicals will be informed both verbally and by means of an information sheet, as to hazards involved at a meeting before any work is accomplished. JRC, Inc.'s will maintain a master list of chemicals on the site in the project office. We will also maintain a master file of SDS for those chemicals. General contractors will be provided with our chemical list and copies of SDS sheets before work commences.

J. Hazards of Unlabeled Piping
If work must be done on unlabeled piping the contents of that piping must be identified and communicated to the workers that will be performing the work. Under no circumstances will unlabeled piping be opened by non-qualified or non-trained workers.

HAZARDOUS COMMUNICATION TRAINING OUTLINE

Introduction

The concept of the Hazard Communication Program was born in 1974 when the Standards Advisory Committee was formed to develop guidelines to implement Section 6 (B) 7 of the Occupational Safety and Health Act. This rule became law in 1984 and became known as 29 CFR Section 1910.1200. This law was designed to provide employees with the training necessary to safely deal with hazardous chemicals in the workplace. Its original intent was to provide information to employees in SIC Codes 20-39 which are manufacturing industries which use large quantities of hazardous materials. The scope has since been expanded to include all companies.

I. Basic Elements of the Right to Know Program

A. The Program is directed at two general groups: chemical manufacturers and chemical users.

B. There are five basic categories of the federal law. They are:

1. Evaluate chemical hazards.
2. Affix warning labels.
3. Provide Safety Data Sheets
4. Conduct chemical handling training.
5. Develop a written program.

C. A detailed explanation of each of these requirements is as follows:

1. Evaluate chemical hazards.

Each employer is required to inventory all of the materials used by his employees and determine if they are hazardous materials and should fall under this program. Any chemicals listed by the following sources are directly applicable to the Hazard Communication Standard.

a. Occupational Safety and Health Administration
b. American Conference of Governmental Industrial Hygienists (ACGIH)
c. National Toxicology Program
d. International Agency for Research on Cancer

The materials covered by this program are any materials that constitute a physical, toxicological or carcinogenic hazard to the worker.

2. Affix warning labels.

Manufacturers of hazardous materials are required to label all shipping containers holding their products. These labels must be on the box holding individual containers and on the individual containers. The labels may show the chemical name or its common name designation, and the label must contain a warning describing the primary health and physical hazards of the chemical. Employees will be familiarized with the Hazardous Material Identification System and pictographs. As an end user who does not manufacture or re-package hazardous chemicals, our responsibilities are limited to insuring that proper warning labels are on all hazardous chemical containers when they arrive at our office. Shipments of hazardous chemicals that arrive without proper warning labels will not be accepted.

3. Provide Safety Data Sheets (SDS).

SDS's must be obtained on all hazardous materials falling under the program. These sheets must be kept in a file that is accessible by all employees. These sheets contain the information that is necessary to determine the hazards involved with working with these chemicals. In addition, these sheets outline the protective measures that must be taken to prevent exposure to the chemicals and first aid procedures that should be implemented if an employee becomes exposed. The location of these sheets will be outlined in the written program.

Manufacturers of these materials are required to provide the consumer with Safety Data Sheets. If these sheets are not provided with the first shipment, they can be requested from the manufacturer.

4. Conduct chemical handling training. Employee training sessions must highlight the following five areas:

a. Review the purpose of the Hazard Communication Standard.
b. Describe the Safety Data Sheet's use and cataloging system.
c. Review the hazards of the chemicals used by employees.
d. Describe the safety measures for controlling the hazard.
e. Summarize the particular hazardous materials used by the employer.

Training is required for all employees who are exposed to hazardous chemicals in the workplace. The Right to Know Law is a performance-oriented standard, meaning that the effectiveness of the program will be evaluated by how well the employees have been informed about the hazardous work environment.

II. Review of Hazardous Materials

The Safety Data Sheets of all the hazardous materials used in this company will be reviewed one by one with the important points being explained to the employees. The most important points on the SDS are the following items:

1. The nature of the hazard that the chemical presents, i.e. flammable, carcinogenic, reactive, etc.
2. Method of entry into the body, i.e. inhalation, absorption, or ingestion.
3. Protective measures needed to prevent overexposure.
4. First aid to be implemented if overexposure occurs.

WORKPLACE CHEMICAL LIST

EMPLOYER NAME: JRC Incorporated. FEDERAL I.D# 20-1718766

ADDRESS: 2098 Tom Austin Hwy, Greenbrier, TN 37073

WORKPLACE LOCATION: Shop and various job sites (Not P.O. Box),

PRIMARY SIC CODE 1761 - Roofing SECONDARY SIC CODE 1452 - GC

DESCRIPTION OF PROCESS OR OPERATION Roofing Construction / Interior Renovation

CHEMICAL/SUBSTANCE NAME	MANUFACTURER (IF KNOWN)	COMMON OR TRADE NAME(S) (Label Identify)	WORK AREA WHERE CHEMICAL IS NORMALLY USED OR STORED
PETROLEUM LUBRICANT	Varies	MOTOR OIL	Shop and Jobsites
DIESEL FUEL	Varies	DIESEL	Shop and Jobsites
UNLEADED GASOLINE	Varies	GASOLINE	Shop and Jobsites
CLEAR CUT SEALANT	CARLISLE SYNTEC	SEALANT	Shop and Roofing Jobsites
FAST PART A	CARLISLE SYNTEC	ADHESIVE	Shop and Roofing Jobsites
FAST PART B	CARLISLE SYNTEC	ADHESIVE	Shop and Roofing Jobsites
LVOC BONDING ADHESIVE	CARLISLE SYNTEC	ADHESIVE	Shop and Roofing Jobsites
LVOC TPO PRIMER	CARLISLE SYNTEC	SOLVENT PRIMER	Shop and Roofing Jobsites
LVOC EPDM PRIMER	CARLISLE SYNTEC	SOLVENT PRIMER	Shop and Roofing Jobsites
SURE SEAL LAP SEALANT	CARLISLE SYNTEC	SEALANT	Shop and Roofing Jobsites
EPDM POURABLE SEALER	CARLISLE SYNTEC	SEALANT	Shop and Roofing Jobsites
TPO BONDING AHESIVE	CARLISLE SYNTEC	ADHESIVE	Shop and Roofing Jobsites
SURE WHITE LAP SEALANT	CARLISLE SYNTEC	SEALANT	Shop and Roofing Jobsites
TPO PRIMER	CARLISLE SYNTEC	SOLVENT PRIMER	Shop and Roofing Jobsites
WATER CUT-OFF MASTIC	CARLISLE SYNTEC	BUTYL MASTIC	Shop and Roofing Jobsites

WEATHERED MEMBRANE CLEANER	CARLISLE SYNTEC	CLEANER	Shop and Roofing Jobsites
OLYBOND 500 PART A	CARLISLE SYNTEC	ADHESIVE	Shop and Roofing Jobsites
OLYBOND 500 PART B	CARLISLE SYNTEC	ADHESIVE	Shop and Roofing Jobsites
FAST CATALYST	CARLISLE SYNTEC	POLYOL/CATALYST	Shop and Roofing Jobsites
FLEXIBLE FAST ADHESIVE A	CARLISLE SYNTEC	ADHESIVE	Shop and Roofing Jobsites
FLEXIBLE FAST ADHESIVE B	CARLISLE SYNTEC	ADHESIVE	Shop and Roofing Jobsites
EPDM BONDING ADHESIVE	CARLISLE SYNTEC	ADHESIVE	Shop and Roofing Jobsites
SINGLE PLY SEALANT	CARLISLE SYNTEC	SEALANT	Shop and Roofing Jobsites
ONE PART POURABLE SEALER	CARLISLE SYNTEC	SEALANT	Shop and Roofing Jobsites

Hazard Communication checklist

____ 1. Have we prepared a list of all the hazardous chemicals in our workplace?

____ 2. Are we prepared to update our hazardous chemical list?

____ 3. Have we obtained or developed a material safety data sheet for each hazardous chemical we use?

____ 4. Have we developed a system to ensure that all incoming hazardous chemicals are checked for proper labels and data sheets?

____ 5. Do we have procedures to ensure proper labeling or warning signs for containers that hold hazardous chemicals?

____ 6. Are our employees aware of the specific information and training requirements of the Hazard Communication Standard?

____ 7. Are our employees familiar with the different types of chemicals and the hazards associated with them?

____ 8. Have our employees been informed of the hazards associate with performing non-routine tasks?

____ 9. Are employees trained about proper work practices and personal protective equipment in relation to the hazardous chemicals in their work area?

____ 10. Does our training program provide information on appropriate first aid, emergency procedures, and the likely symptoms of overexposure?

____ 11. Does our training program include an explanation of labels and warnings that are used in each work area?

____ 12. Does the training describe where to obtain data sheets and how employees may use them?

____ 13. Have we worked out a system to ensure that new employees are trained before beginning work?

____ 14. Have we developed a system to identify new hazardous chemicals before they are introduced into a work area?

____ 15. Do we have a system for informing employees when we learn of new hazards associated with a chemical?

Hazardous Substances
Employee Orientation Checklist

Employee(s) Name:

Title:

Trainer Name:

This checklist is to inform employees of JRC Incorporated of its Hazard Communication Program. Place a check in each box to indicate that the subject has been covered.

The supervisor has reviewed the following information with the employee:

☐ 1. The purpose of the hazard communication standard is to require chemical manufacturers or importers to assess the hazards of chemicals they produce or import. All employers must provide information to their employees about the hazardous chemicals to which they may be exposed.

Employees must be informed about the hazard communication program, labels and other forms of warning, and material safety data sheets, and they must have training on the hazardous substances they may encounter.

☐ 2. The supervisor has reviewed the hazardous chemical list with the employee.

☐ 3. The supervisor has shown the employee the following:

- ☐ Location of hazardous chemicals within the employee's work site.
- ☐ Location of the written Hazard Communication Program.
- ☐ Location of the material safety data sheets for all hazardous chemicals in the employee's assigned work area.
- ☐ Location of the list of person(s) trained and authorized to handle the hazardous chemicals.

The signature below documents that the appropriate elements have been talked over to the satisfaction of both parties and that both the supervisor and employee accept responsibility for maintaining a safe and healthful work environment.

Date:_____ Supervisor's signature: _____

Employee's signature: _____

Employee's signature: _____

Employee's signature: _____

Employee's signature: _____

Job Site List of Hazardous Chemicals

Project Name:_____

Address:_____

Date:_____

Refer to JRC Incorporated HAZCOM Communication Program for list of normally used chemicals that present a hazard.

SDS identity:

Chemical Name	Manufacturer	Location Use
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

List will be updated and additional SDSs will be forwarded to supervisor upon immediate notification of any new chemical hazard