COMELCO

General & Electrical Contracting Services

Accident Prevention
&
Safety Manual

COMELCO, INC.
410 NORTH STREET
SUITE 130
LONGWOOD, FL 32750
PH: (407) 830-5884
FAX: (407) 830-5004
WWW.COMELCOINC.COM

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Safety Policy Statement

It is the policy of COMELCO, INC. that injury and illness prevention shall be considered of primary importance in all phases of operations and administration.

It is the intention of the company's top management to provide safe and healthy working conditions and to establish and insist upon safe practices at all times by all employees.

The prevention of injury and illness is an objective affecting all levels of the organization and its activities. It is therefore, a basic requirement that each supervisor make the safety of employees an integral part of his or her regular management function. It is equally the duty of each employee to accept and follow established safety regulations and procedures.

Every effort will be made to provide adequate training to employees. However, if an employee is ever in doubt how to do a job safely, it is their duty to ask a qualified person for assistance.

Employees are expected to assist management in injury and illness prevention activities. Unsafe conditions must be reported. Fellow employees that need help should be assisted. Everyone is responsible for the housekeeping duties that pertain to their jobs.

Any injury that occurs on the job, even a slight cut or strain, must be reported to management as soon as possible. In no circumstance, except an emergency, should an employee leave a shift without reporting an injury that occurred.

When you have an injury and illness, everyone loses; you, your family, your fellow workers, and the company. Please work safely. It's good for everyone.

_____ _____

JESSE GONZALEZ
President/Owner

Date

INJURY & ILLNESS PREVENTION PROGRAM

Introduction to Our Program

An Injury and Illness Prevention Program (IIPP) protects you and your co-workers from work-related injuries and illnesses. Please take the time to read it carefully. Direct any questions you may have about our IIPP to the Responsible Safety Officer RORY B. BARTON (RSO).

An effective IIPP includes these elements:

1. A written plan designating who's in charge of safety program implementation.
2. A periodic inspection system to identify workplace hazards.
3. Procedures for investigating the cause of accidents, illnesses or injuries.
4. Methods to ensure elimination of hazards once they're identified through inspections and accident investigations.
5. A safety and health training program specific to each job that's required for new employees as well as whenever new substances, processes, procedures or equipment are introduced to the workplace.
6. A system for employees to communicate safety concerns to employers without fear of reprisal.
7. A system for ensuring employee compliance with safety and health practices.
8. Maintenance of appropriate records and steps taken to implement and maintain the accident prevention program.

Individual Cooperation Necessary

Safety in the workplace is a team effort. Everyone must do there part to ensure not only their own safety, but, the safety of everyone else as well. COMELCO, INC. has established policies and procedures for working safety and provides to our employees mechanical and physical protection, however, "your" safety is ultimately "your" responsibility.

Safety Program Goals

COMELCO, INC.'s goal is to reduce work-related injuries and illnesses to the lowest possible level. Ultimately, our goal is to eliminate all work-related injuries and illnesses. *"NO JOB IS SO IMPORTANT AND NO SERVICE SO URGENT THAT WE CANNOT TAKE TIME TO PERFORM OUR WORK SAFELY"*

Basic Safety Rules

1. Compliance with applicable Federal, State, County, City, Client and Company Safety Rules and Regulations is a condition of employment.
2. Every injury, regardless of its nature or extent, should be reported to your supervisor. Failure to comply with this rule could delay the correction of the situation which caused the injury.
3. The possession or use of alcoholic beverages on company property is prohibited. No worker shall report for duty, or perform duties, while under the influence of intoxicants.
4. The use of narcotics or tranquilizers by employees during working hours is prohibited unless under the supervision of a physician and knowledge of your supervisor.
5. Do not remove, displace, damage, destroy or carry off any safety device, safeguard, notice, or warning.
6. Do not engage in fighting, horseplay, or distraction of fellow employees.
7. Do not attempt to lift anything that may be too heavy or bulky for your physical capacity. If in doubt, get help.

8. Good housekeeping shall be maintained in all work areas. Clean up waste materials promptly and completely after a job is completed.
9. Observe all traffic rules and regulations when driving.
10. Do not operate a piece of equipment unless you have been instructed in its use.
11. Smoking is allowed “only” in designated areas.
12. Never use a box, bucket, chair, shelf, etc., as a ladder. Use only approved step-stools or ladders.
13. Observe and obey all safety signs and procedures in any area you are assigned to work in.
14. Report all damaged or faulty equipment to your supervisor unless you are authorized to make repairs.
15. No unauthorized person shall make electrical or mechanical repairs or adjustments on equipment.
16. Refrain from hanging articles from building fire sprinkler system or insulated steam or water lines.
17. Do not block or obstruct an aisle, passageway, hallway, stairway, escapeway, or exit. Do not use these areas for storage.
18. Maintain adequate access to electrical panels.
19. Do not block or cover fire extinguishers, fire alarms, or sprinkler heads.
20. Approach doors slowly and open them with caution; someone may be on the other side.
21. Fire doors must not be blocked open or locked in such a way that they cannot be opened in the exit direction.
22. When using stairs, do not carry loads so large that the view of stair treads is obscured. Keep one hand free for the hand rail.
23. Keep stairs clear of all objects. Pick up anything you find on the stairs and store or dispose of it properly.
24. Know where the fire extinguisher in your area is, how to use it, and for what types of fires it is rated.
25. Burning of decorative candles is not permitted without specific permission from the fire marshal.
26. Electric coffee pots or other heating devices should be set on tile, metal, or other non-flammable surfaces, and must be of industrial quality for use in company buildings.
27. Gasoline or similar flammable solvents should not be used to clean floors, walls, or other surfaces, or for cleaning skin.
28. Do not run over cords, computer cables, or telephone wires across walkways creating a tripping hazard.
29. Do not use extension cords as a substitute for permanent electrical wiring. The only exception to this are “fused” multi-outlet strips which are “UL listed.” If extension cords are necessary for short-term use, use only heavy-duty cords.
30. Report unsafe conditions or behavior to your supervisor or to the RSO.
31. Wipe up all spilled liquids immediately, to prevent falls on polished floors. Place some type of warning marker near wet spots until dry. Hazardous material spills must be reported to the RSO. Assistance in cleanup will be provided if requested.
32. Do not remove labels from chemical containers unless the containers are empty and have been thoroughly cleaned. Clean, empty containers may be used for other materials if proper new labels are affixed.
33. Clean machine parts using only approved solvents and parts-washing baths specifically designed for such use. Use with adequate ventilation. Dispose of waste solvents through the safety office.
34. Employees are not permitted to stand in the back of moving vehicles or to sit on the sides of moving pickups. Seat belts are to be used wherever provided.
35. Fall Protection Requirements: *(SEE FALL PROTECTION PROGRAM)*

    a. Full Body Harness and Lanyards shall be worn and secured any time there is a fall hazard of more than 6 feet.
    b. Lifelines shall be erected to provide fall protection where work is required in areas where permanent protection is not in place. Horizontal lifelines shall be a minimum of 1/2" diameter wire rope. Vertical lifelines shall be 3/4" manila rope or equivalent and shall be used in conjunction with an approved rope grab.

c. Structural steel erectors are required to "Hook Up" with full body harness and lanyard.
d. Workers using their lanyards to access the work or position themselves on a wall or column, etc., must use an ADDITIONAL Safety lanyard for fall protection.
e. Proper use of manlifts: As soon as you enter an articulating boom lift and before the lift is started, you must put on the harness and attach the lanyard to the lift. On scissor lifts employees are not required to wear harnesses.

36. All personnel will be required to attend a Safety Meeting as required by Project Requirements.
37. Burning and cutting equipment shall be checked daily before being used. Flash back arresters shall be installed at the regulators on both 0xygen and L.P. bottles. All gas shall be shut off and hoses disconnected from bottles and manifolds at the end of the day. Caps shall be replaced on bottles when gauges are removed. When gauges are removed and caps replaced, the Oxygen and L.P. bottles shall be separated into storage areas not less than 20' apart with a "No Fire or Smoking" sign posted and a fire extinguisher readily available. Makeshift field repairs will not be allowed.
38. Drinking water containers are for drinking water and ice only. Tampering with or placing items such as drinks, etc., in the water cooler will result immediate termination. The "common drinking cup" is not allowed. Only disposable cups will be used.
39. All tools whether company or personal, must be in good working condition. Defective tools will not be used. Examples: chisels with mushroomed heads, hammers with loose or split handles, guards missing on saws or grinders, etc.
40. All extension cords, drop cords and electrical tools shaIl be checked (to include presence of GFI's) and color coded by a designated competent person each month. This shall be part of the assured grounding program. Electrical cords and equipment must be properly grounded with GFI's in place and checked by a competent person. Cords and equipment which do not meet requirements shall be immediately tagged and removed from service until repairs have been made.
41. Jobsite speed limit is 10 MPH. No one is permitted to ride in the bed of a truck standing up. Sitting on outside edges is also prohibited: "YOU MUST BE SITTING DOWN INSIDE THE TRUCK OR TRUCK BED WHEN THE VEHICLE IS IN M0TION." Riding as a passenger on equipment is prohibited unless the equipment has the safe capacity of transporting personnel.
42. Adequate precautions must be taken to protect employees and equipment from Hot Work such as welding or burning. Fire extinguishing equipment shall be no further away than 50 ft. from all Hot Work. Return used extinguishers to the RSO to be re-charged immediately. Use of welding blinds are required in high traffic areas.
43. All scaffolding and work platforms must be in accordance with OSHA specifications. All ladders must be in safe condition without broken rungs or split side rails. Damaged ladders shall be removed from service. Ladders shall be secured at the top and bottom and extend 3 past the working surface. Metal ladders around electrical work are prohibited. Never use a step ladder as a extension ladder. A step ladder must only be used when fully opened with braces locked.
44. Crowfoot connections on air hoses shall be wired to prevent accidental disconnection. Compressed air shall not be used to dust off hands, face, or clothing.
45. All floor openings or excavations shall be barricaded on all sides to ensure employees are aware of the hazard. Floor holes shall be covered, the covers SECURED, and clearly marked.
46. Warning signs, barricades, and tags will be used to fullest extent and shall be obeyed.
47. Respiratory Protection is required for employees exposed to dust hazards or to other contaminates that may be encountered. ***(SEE RESPIRATORY PROTECTION PROGRAM)***
48. Excavation: ***(SEE EXCAVATION PROCEDURE)*** As a minimum:

a. All soils in the Florida and South Georgia Region are considered type "C", which require a wall slope of 1 1/2 to 1 (34°) or shoring. This applies to trenches 4' or deeper.
b. All spoils, materials and equipment shall be a minimum of 2' from the edge or excavation.
c. No employees are permitted to work under loads being handled by lifting or digging equipment.

d. A stairway, ladder or ramp shall be located in trenches 4' or deeper, no more than 25' away from the work area.
e. Barricade around work area. A barricade must be erected around the excavation.

49. Confined Space: ***(SEE CONFINED SPACE PROGRAM)***

a. Any vessel, manhole or pit 5' deep or greater-including trenches, or any structure not meant for human occupancy is considered a confined space.
b. A completed Confined Space Permit by competent person is required prior to entry into permit required confined spaces.
c. Contact your Supervisor prior to starting any Confined Space work for copies of permit required and a list of required Safety Equipment.
d. See Appendix "A" for detailed requirements of equipment and procedures in use at the job site.

50. Lockout/Tagout Procedures: ***(SEE LOCKOUT/TAGOUT PROCEDURE)***

a. A written Lock Out/Tag Out Program is required to be in use at the jobsite when Lockout/Tagout procedures are used. This is available from the RSO.
b. Every employee involved in the work around energized equipment has the right to put on their own tag and lock. Otherwise, a gang-type lock box can be used if agreed upon by all parties involved.
c. A responsible person from each craft will be designated to lock and tag. They shall be the only persons able to remove tags and locks after work is complete.

51. Scaffold Tag System:

a. Green tags are to be placed on 100% complete scaffolds with all braces, locks and hand, mid & toe rails in place before use.
b. Yellow tags are for incomplete scaffolds. If scaffold is missing a hand, mid or toe board, it must have a yellow tag and employees on it must be tied off at all times.
c. Red tags are for scaffolds that are in the process of either being erected or disassembled. These scaffolds are not to be used at any time.
d. Scaffold tags should be placed in a highly visible location on the scaffolds for all employees to see.

Designated Responsible Safety Officer (RSO) RORY R. BARTON

COMELCO, INC. has designated RORY B. BARTON as our Responsible Safety Officer. The designation of an RSO is the most critical part of preparing ourselves to succeed or fail with the establishment and maintenance of our company safety program. The designated RSO is the glue that holds the many aspects of your program together.

The key critical ingredients considered in making this decision were:

- *Willingness* - the person chosen must indicate a genuine interest and desire to do this work.
- *Knowledge* - College degrees in Safety and/or experience in the field are necessary for a full time Safety program.
- *Money* - A budget needs to be established for this program to, at a minimum, include the following:

Reference material - software, books, etc……
Designated person attending seminars.....

Safety committee meetings.....
Incentive Program.....

The total cost/savings benefit ratio is arrived at by estimating our fines, should OSHA inspect our business before we become prepared, and the plus or minus effect on your experience modifier.

Accountability - The person to fulfill these tasks must be accountable only to the company CEO or President in all matters of safety and health for these reasons:

- This plainly demonstrates top management's commitment to the safety program.
- Keeps top management in the loop and provides for guidance at all stages of the program.
- Prevents creativity of the designated safety person from being thwarted or stifled by intermediate supervisors who are unaware of the tremendous negative impact OSHA fines and increased workers' compensation premiums can have on the company's bottom line.

Responsibilities

- Will be responsible for the administration and implementation of the Safety and Health Regulations as they apply to [Company Name]. In addition, he/she will administer the company safety program and see that it is put into effect and administered as outlined below.

- Will see that a monthly report is completed, listing all accidents which occurred during the preceding month. These will be reviewed to determine type and degree of accident so that corrective measures may be taken through safety talks to personnel, bulletins to employees, purchase of new equipment, or change in work procedures.

- Will see that all sub and trade contractors abide by their safety and health program and that documentation is made of any alleged violations.

- Will maintain and update a set of basic safe work rules. These safety rules will be explained by the company RSO to the President and Supervisor(s) who, in turn, will discuss these with employees. Company safety rules will be posted in all work areas.

- Will periodically conduct safety inspections and file reports.

- Will provide safety training for employees.

- Will read, review and provide the President and Supervisor(s) with updated OSHA Safety Standards.

- Will make necessary corrections in company policy and work procedures by advising of changes in OSHA rules and regulations.

- Through the purchasing section, will see that all vendors are advised of the company safety and health programs as they apply to the vendor and supplier personnel entering the job site. In addition, all purchase orders will require compliance with OSHA Act.

- Will meet regularly with supervisors/management to review safety procedures on the job, and, in general, check on the supervision's compliance with the company safety and health program.

Responsibilities

President's Responsibilities

- Read and review the OSHA Safety Standards and become knowledgeable of federal, state and local standards.
- Responsible to see that a study is made of the work area(s) to determine the exposure to accidents, which may develop. Particular attention will be given to the protection of the public and to fire prevention facilities.
- Be safety oriented when walking through work areas. Report to the RSO all unsafe acts and conditions either of your company's or sub or trade contractor's personnel.
- Review all accident reports.

Supervisor's Responsibilities

- The Supervisor is responsible for the implementation of the company safety and health program.
- Make available all necessary personal protective equipment, job safety materials, and First Aid equipment.
- Instruct the employees that safe practices are to be followed and safe conditions maintained throughout the job.
- Inform the Leadperson that they are not to require nor permit their workers to take chances -rather that they instruct the workers in proper and safe procedures.
- Require all contractors and their prime subcontractors to adhere to all safety regulations. The Supervisor will report any unsafe conditions on contractor portions of the work to the RSO.
- Review all accidents with employee and see that corrective action is taken immediately.
- Be familiar with the laws pertaining to safety and their basic requirements.
- Investigate all accidents. File a complete accident report with the RSO and correct the causes immediately. Use OSHA Form 301 or its equivalent.
- Be familiar with the laws pertaining to safety and their basic requirements.

Employee Responsibilities

- Work according to good safety practices as posted, instructed and discussed.
- Refrain from any unsafe act that might endanger himself/herself or his/her fellow workers.
- Use all safety devices provided for his/her protection.
- Immediately report any unsafe situation or acts to his/her supervisor or safety personnel.
- In the event of an injury, report to the designated area for First Aid treatment. In all cases, the employee and Supervisor will report and/or record all accidents.
- Maintain a clean and safe work area.
- Be a safe worker, off the job, as well as on.

Safety Committee Responsibilities

In general, the committee will serve in an advisory capacity to the RSO on determining a general plan of action for the company's safety policy as set by management. More specifically, the members of the committee will familiarize themselves with safety standards and assist in formulating plans for the application of the standards in all work areas.

Employee Compliance & Accident Free Workplace

COMELCO, INC. promotes employee compliance with the company IIPP by rewarding employees who avoid work-related injuries and illnesses by working safely, and by submitting suggestions to management that will reduce our injury and illness rates. However, under no circumstances should any employee "not" report a legitimate work-related injury or illness. Timely and accurate reporting of injuries and illnesses is absolutely critical to an effective safety program.

To help us all meet our goal of an accident free workplace, we have instituted a contest: we will offer a prize for each month in which there is not a single time-loss accident at work. The prize will be awarded at random. Each month, the prize will be announced in advance. All employees who worked more than 1 hour in the month are eligible. Failure to report an industrial injury will suspend the prize for two months

Employees who fail to comply with the safety requirements described in our IIPP will be subject to the company's disciplinary action policy.

Disciplinary Policy

The disciplinary system does not exist primarily to punish employees. Its purpose should be to control the work environment so that workers are protected and accidents are prevented. A disciplinary system helps ensure workplace safety and health by letting the [Company Name]'s employees know what is expected of them. It provides workers with opportunities to correct their behavior before an accident happens.

A disciplinary system is one of the keys to successfully implementing the Company's safety and health program. It ensures that the Company's rules and safe working practices are taken seriously by employees and are actually followed. It lets employees know how [Company Name] expects them to operate in relation to the goals of the Company's safety and health program. And it lays out the actions the Company will take if individuals do not meet the Company's expectations. The employee's supervisor and all members of management are responsible for the enforcement of this disciplinary program.

A disciplinary system cannot work in a vacuum. Before the Company can hold employees accountable for their actions, the Company first needs to establish its safety and health policy and disciplinary rules.

Policy Statement

Employees need to know the Company's position on safety and health and what the Company expects of them. They need a clear understanding of the rules and the consequences of breaking those rules. This is true in all areas of work, but it is especially important for worker safety and health. As part of the policy statement, and in the employee safety handbook, the Company has a written statement setting forth the Company's disciplinary policy. Company managers and supervisors will always be on the lookout for safety violations and will conscientiously and vigorously enforce the Company's commitment to safety.

Employee Information and Training

It is important that employees understand the system and have a reference to turn to if they have any questions. Therefore, in addition to issuing a written statement of the Company's disciplinary policy, the Company has drawn up a list of what it considers major violations of Company policy and less serious violations. This list specifies the disciplinary actions that will be taken for first, second, or repeated offenses. This list is not all-inclusive other types of violations can result in specific levels of disciplinary action relative to the seriousness of the violation and entirely at the Company's discretion.

The list for immediate termination and grounds for immediate discharge are:

- Drinking alcohol, and/or drug abuse prior to or during working hours
- Fighting, provoking or engaging in an act of violence against another person on Company property
- Theft
- Willful damage to property
- Failure to wear Personal Protective Equipment (eye protection, hearing protection, safety helmets, etc.).
- Not using safety harnesses and lanyards when there is a potential for falling
- Removing and/or making inoperative safety guards on tools and equipment
- Tampering with machine safeguards or removing machine tags or locks
- Removing barriers and/or guardrails and not replacing them
- Failure to follow recognized industry practices
- Failure to follow rules regarding the use of company equipment or materials
- Major traffic violations while using a company vehicle
- Engaging in dangerous horseplay
- Failure to notify the Company of a hazardous situation and
- Other major violations of company rules or policies

General Offences requiring a warning and can lead to termination:

- Minor traffic violations while using Company vehicles
- Creating unsafe or unsanitary conditions or poor housekeeping habits
- Threatening an act of violence against another person while on company property
- Misrepresentation of facts
- Unauthorized use of Company property
- Excessive tardies and late to work
- Disrespect and/or insubordination to authority
- Other violations of Company Policy and rules

Training

Training can reduce the need for disciplinary action. The Company shall instruct employees in the importance of workplace safety and health, the need to develop safety habits, the Company's operations, safe work practices, and the hazards they control, and the standards of behavior that the Company expects. The Company's employees must understand the disciplinary system and the consequences of any deliberate, unacceptable behavior.

Supervision

Supervision includes both training and corrective action. Ongoing monitoring of the Company's employees' work and safety habits gives the Company's supervisors the opportunity to correct any problems before serious situations develop. In most cases, effective supervision means correcting a problem before issuing any punishment.

Where the relationship between employees and their supervisors is open and interactive, problems are discussed and solutions are mutually agreed upon. This type of relationship fosters a work environment where the need for disciplinary action is reduced. When such action is needed, the parties are more likely to perceive it as corrective than punitive.

Employee Involvement

Employees are encouraged to help informally in the enforcement of rules and practices. The intent here is not to turn employees into spies and informers, but to encourage them to be their "brother's keeper" and to watch out for the safety and health of their colleagues. Many employers successfully have encouraged an atmosphere -- a company "culture" – where employees readily speak up when they see an easily corrected problem, for example, a coworker who needs reminding to put on safety goggles.

The Company's employees deserve the opportunity to correct their own behavior problems. An effective disciplinary system is a two-way process. Once a problem is spotted, discuss it with the employee, who should be given at least one or two opportunities to change the behavior or correct the problem. Only after these discussions (and possibly some retraining) should disciplinary action be taken.

Appropriate Control Measures

Disciplinary actions need to be proportionate to the seriousness of the offense and the frequency of its occurrence. It is certainly inappropriate to fire someone for occasional tardiness. It is equally inappropriate to issue only oral warnings to an employee who repeatedly removes a machine guard.

Disciplinary procedures should not be instituted without explanation. The Company will provide feedback to the employee on what behavior is unacceptable, why the corrective action is necessary, and how the employee can prevent future violations and disciplinary action. In addition, take time to recognize an employee who improves or corrects his/her behavior.

Consistent Enforcement

Workers must realize that safe work practices are a requirement of employment and that unsafe practices will not be tolerated. It is necessary, therefore, that the employer have a disciplinary system that is implemented fairly and consistently.

If the Company's disciplinary system is to work well and be accepted by the Company's workforce, the system applies equally to everyone. This includes subjecting managers and supervisors to similar rules and similar or even more stringent disciplinary procedures.

For minor violations, supervisors shall meet with the employee to discuss the infraction and inform the employee of the rule or procedure that was violated AND describe the corrective action needed to remedy the situation.

Documentation

One key to ensuring fairness and consistency in a disciplinary system is keeping good records. It is in the best interest of both the Company and the employee to have written rules and disciplinary procedures. It is just as important to document instances of good or poor safety and health behavior, including discussions with the employee, and to place relevant information in the employee's personnel file..

Documentation serves a variety of purposes. It helps the Company to track the development of a problem, corrective actions, and the impact of measures taken. It provides information so the Company can keep employees informed of problems that need correction.

When the Company is evaluating the managerial and supervisory skills of a supervisor, it provides a useful record of how they handled problems.

If warnings, retraining, and other corrective actions fail to achieve the desired effect, and if the Company decides to discharge an employee, then documentation becomes even more critical. Conversely, the Company will conduct an annual clearing of the personnel files of employees whose good overall safety records are marred by minor warnings.

Safety & Health Training

COMELCO, INC. is committed to instructing all employees in safe and healthy work practices. The Company will provide training to each employee with regard to general, acceptable, safety procedures and to any hazards or safety procedures that are specific to that employee's work situation.

Training can take many forms and is synonymous with education and can be attained in a number of ways.

Company Safety Rules: Employees should read the rules and understand them. The issuance of these rules should be logged and signed receipts should be kept on file. Each new employee, as he arrives on the job, should be approached in the same manner.

Periodic Safety Talks – the company should attempt to hold a safety talk with their employees on a weekly or at least monthly basis. The talk may consist merely of restating the company safety rules or warning of dangerous conditions which exist. A particular subject may be covered, such as lockout tagout, confined space, or fire prevention.

Changed Conditions -When any of the job operation changes or when new hazardous materials are brought into the workplace, employees should be made aware of new or added potential dangerous situations that might occur and the proper action employees can take to maintain a safe workplace.

Safety Equipment -Employees should not simply be issued protective equipment. They should be instructed as to its proper and safe use.

Consistency/Redundancy -The employer must consistently and routinely entertain the concept of safety training. Once is not enough. At the orientation meeting of new employees, on through the follow-up weekly/monthly safety talks, the central theme must be to dwell on employees not committing unsafe acts.

Management Follow-Up -Management must not be content with advising employees on unsafe practices. A follow-up of employee actions must be made. The Supervisor(s) must be instructed to watch for employees committing unsafe acts. Employees should be reprimanded when found doing unsafe acts. (See disciplinary policy)

Documentation -All actions taken by Management as it relates to Safety Training/Education should be documented. Documentation of good faith efforts in meeting the training requirements can be invaluable in defending a lawsuit that results from an injury due to an unsafe act by an employee. Also, documentation substantiates your commitment to and compliance with the OSHA Training Requirements.

Individual/Group Instruction -Safety Education can be aimed at a group such as at a weekly/monthly safety talk or at an individual as in a case where the employee is being given instruction on use of a new tool, etc., by the Supervisor. Whichever the case may be, it should be documented.

Safety training must be ongoing. It must be given to all employees and members of management. Documentation of instruction and other forms of safety awareness techniques must be made. Never assume everyone knows the safest way of performing his or her task.

The Company provides training:

- When the program is first established;
- To all new employees;
- To all employees given new job assignments for which training has not previously been received;
- Whenever new substances, processes, procedures or equipment are introduced to the workplace and represent a new hazard;
- Whenever the employer is made aware of a new or previously unrecognized hazard; and
- For supervisors to familiarize them with the safety and health hazards to which employees under their immediate direction and control may be exposed.

Safety Training Topics

We train our workers on the following checked training subjects. Other training may be conducted depending on hazards present in the workplace.

- The Company's Code of Safe Practices.
- Confined spaces.
- Safe practices for operating any equipment.
- Good housekeeping, fire prevention, safe practices for operating any construction equipment.
- Safe procedures for cleaning, repairing, servicing and adjusting equipment and machinery.
- Safe access to working areas.
- Protection from falls.
- Electrical hazards, including working around high voltage lines.
- Crane operations.
- Trenching and excavation work.
- Proper use of powered tools.
- Guarding of belts and pulleys, gears and sprockets, and conveyor nip points.
- Machine, machine parts, and prime movers guarding.
- Lock-out/tag-out procedures.
- Materials handling.
- Chainsaw and other power tool operation.
- Tree falling/bucking procedures and precautions, including procedures for recognizing and working with hazard trees, snags, lodged trees, and unsafe weather conditions.
- Yarding operations, including skidding, running lines, unstable logs, rigging and communication.
- Landing and loading areas, including release of rigging, landing layout, moving vehicles and equipment, and log truck locating, loading and wrapping.
- Fall protection from elevated locations.
- Use of elevated platforms, including condors and scissor lifts.
- Safe use of explosives.
- Driver safety.
- Slips, falls, and back injuries.
- Ergonomic hazards, including proper lifting techniques and working on ladders or in a stooped posture for prolonged periods at one time.
- Personal protective equipment.
- Respiratory Equipment.
- Hazardous chemical exposures.
- Hazard communication.
- Physical hazards, such as heat/cold stress, noise, and ionizing and non-ionizing radiation.

- Laboratory safety.
- Bloodborne pathogens and other biological hazards.

Other job-specific hazards, such as _____

_____

_____

_____

Periodic Safety Training Meetings

The purpose of the meeting is to convey safety information and answer employee questions. The format of most meetings will be to review, in language understandable to every employee, the content of the injury prevention program, special work site hazards, serious concealed dangers, and material safety data sheets. Each week, the RSO will review a portion of the company's safe work practices contained in this booklet, or other safety related information. Whenever a new practice or procedure is introduced into the workplace, it will be thoroughly reviewed for safety. A sign-up sheet will be passed around each meeting, and notes of the meeting will be distributed afterwards. A copy of the notes will also be placed in the file of each employee who attends the meeting. Employee attendance is mandatory and is compensable unless part of an official state approved training program or pre-employment requirement. [Company Name] provides tailgate safety meeting on a weekly basis.

Employee Training Documentation

COMELCO, INC. maintains documentation of safety and health training for each employee, including employee name or other identifier, training dates, type(s) of training, and training providers. This documentation shall be maintained for one (1) year.

Training records of employees who have worked for less than one (1) year for the Company will not be retained beyond the term of employment if they are provided to the employee upon termination of employment.

Employee training records are maintained in the RSO’s office.

Employee Communication

Occupational safety and health matters will be promptly communicated with employees. This will be done by:

- SAFETY COMMITTEE: Safety Committees will communicate with employees on inspections and abatement activities, accident investigation findings, and general committee activities. Minutes of Safety Meetings are available for employee review.
- BULLETIN BOARDS: A safety bulletin board will be located in each work area. The cal-OSHA Poster and the company's Safety Policy will be permanently posted on all bulletin boards. In addition, the minutes of the last Safety and Health Committee meeting will be posted on all bulletin boards. Other safety related items shall be posted on the bulletin boards as they become available.
- TAILGATE TALKS: Supervisors will give Tailgate talks at least once each week to all employees. Provisions must be made to ensure that employees who were not present are given the information presented during the talk. This may be done by presenting the talk at a later time for the missing employees or by posting an outline of the talk on the safety bulletin board. Tailgate talks must be documented on the SAFETY MEETING REPORT.
- EMPLOYEE SAFETY HANDBOOK: An Employee Safety Handbook will be issued to each employee. This handbook covers basic safety rules, guidelines for safe work performance, company policy, etc. (Note: supervisors will be provided a SUPERVISOR'S SAFETY HANDBOOK, which will include the Employee's Safety handbook and appropriate additional information for supervisors).

- SAFETY POSTERS: Safety Posters, either purchased from a vendor or produced by the Safety and Environmental Coordinator, will be posted on the bulletin board and at other appropriate locations.
- SAFETY PERFORMANCE ANALYSIS: At least once each quarter, the Safety and Environmental Coordinator will prepare an analysis of the effectiveness of the safety program. This analysis will include accident statistics for the company. The analysis will be posted on safety bulletin boards

Accident Prevention Policy Posting

A copy of this manual will be posted in the work area.

Safety Committees

Accident prevention and control of hazards is the result of a well-designed and executed safety and health program. One of the keys to a successful program includes company safety committees composed of management and general labor personnel. Two of the most critical functions of a well-designed, trained safety committee are safety audits and accident investigations. The basic purpose of audits and investigations is to determine measures that can be taken to prevent accidents in the future. [Company Name] is committed to accident prevention in the workplace.

A company safety committee has been established composed of labor and management personnel. When possible, new employees will be rotated on to the committee to provide new enthusiasm and perspectives on safety in the workplace.

The safety committee functions/responsibilities are as follows:

- Meets regularly, but not less than quarterly;
- Prepares and makes available to the affected employees, written records of the safety and health issues discussed at committee meetings, and maintained for review by the Division upon request. The committee meeting records shall be maintained for one (1) year;
- Reviews results of the periodic, scheduled worksite inspections;
- Reviews investigations of occupational accidents and causes of incidents resulting in occupational injury, occupational illness, or exposure to hazardous substances and, where appropriate, submits suggestions to management for the prevention of future incidents;
- Review investigations of alleged hazardous conditions brought to the attention of any committee member. When determined necessary by the committee, the committee may conduct its own inspection and investigation to assist in remedial solutions;
- Submits recommendations to assist in the evaluation of employee safety suggestions; and
- Upon request from the Division verifies abatement action taken by the employer to abate citations issued by the Division.

The safety committee meets on a monthly basis to discuss current safety issues and to conduct a safety audit of the job site(s). These activities will be documented using the attached Minutes of Safety Committee Meeting Form.

Hazard Identification – Inspections & Abatement

The RSO will inspect each of the operation's facilities monthly. During the inspection, the manager will record the hazards or unsafe procedures observed during the inspection. One copy of the report will be filed at the main office and another copy will be sent to the supervisor directly responsible for the location or work procedure.

Each supervisor receiving an inspection report that has corrections to be made must respond, in writing, to the manager within 7 days. The response shall note the estimated time to make necessary corrections or to develop alternative work procedures as uncovered during the inspection. The supervisor's response may also include other suggestions to improve the safety within his or her area of responsibility.

The RSO will reinspect the areas that were found to be unsafe during the inspection within 14 days of the original inspection and each 7 day period thereafter until the hazards are corrected.

Other inspections will be conducted:

- Whenever new substances, processes, procedures, or equipment are introduced to the workplace that represent a new occupational safety and health hazard; and
- Whenever the Company is made aware of a new or previously unrecognized hazard.

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When an imminent hazard exists which cannot be immediately abated without endangering employee(s) and/ or property, the Company will remove all exposed personnel from the area except those necessary to correct the existing condition. Employees necessary to correct the hazardous condition shall be provided the necessary safeguards.

Accident Investigation

It is the policy of [Company Name] that all work related accidents, injuries and illnesses are to be conducted in a professional manner to identify probable causes and are used to develop specific management actions for the prevention of future accidents. Every minor or non-disabling injury will be investigated with the same vigor and thoroughness as serious injuries. Proper and complete investigation of these injuries can be an effective injury prevention tool. The Safety Committee will be responsible for conducting accident investigations.

All accident investigations will be conducted as soon as possible, within 48 hours. All accident investigations will be documented using the attached Accident Investigation Report Form. While conducting accident investigations, particular attention will be given to suggesting ways to prevent future occurrences of the events which caused the accident and corrective action to be taken.

All pictures should be identified. Let people know on tape that they are being recorded. Also, make sure that the names and addresses and day and evening phone numbers of all eye witnesses are noted or recorded. If a formal police report or other official investigation is conducted by any government agency, get the name and badge number of the official, or a business card, and find out when a copy of the official report will be available to the public. If you are requested to make a statement, you have the right to have the Company lawyer attend your statement at no cost to you.

A satisfactory accident report will answer the following questions:

1. What happened? The investigation report should begin by describing the accident, the injury sustained, the eyewitnesses, the date, time and location of the incident and the date and time of the report. Remember: who, what, when, where and how are the questions that the report must answer.

2. Why did the accident occur? The ultimate cause of the accident may not be known for several days after all the data are analyzed. However, if an obvious cause suggests itself, include your conclusions as a hypothesis at the time you give your information to the person in charge of the investigation.

3. What should be done? Once a report determines the cause of the accident, it should suggest a method for avoiding future accidents of a similar character. This is a decision by the Responsible Safety Officer and the supervisor on the project, as well as top management. Once a solution has been adopted, it is everyone's responsibility to implement it.

4. What has been done? A follow up report will be issued after a reasonable amount of time to determine if the suggested solution was implemented, and if so, whether the likelihood of accident has been reduced.

Records

COMELCO, INC. maintains records of employee training, hazard identification and abatement, and accident investigation.

OSHA Records Required

Copies of required accident investigations and certification of employee safety training shall be maintained by the Responsible Safety Officer.

COMELCO, INC. keeps records of its employee fatalities, injuries, and illnesses that:

- Is work-related; and
- Is a new case; and
- Meets one or more of the general recording criteria of Title 8 Sections 14300-14300.48.

Each recordable injury or illness is entered on OSHA 300 Log of Work-Related Injuries and Illnesses, OSHA 301Form Injury and Illness Incident Report, and a separate, confidential list of privacy-concern cases, if any, within (7) calendar days calendar days of receiving information that a recordable injury or illness has occurred. The RSO keeps these records up to date.

If there is a privacy-concern case, we have the option to not enter the employee's name on OSHA 300 Log of Work-Related Injuries and Illnesses. Instead, the text “Privacy Case” is entered in the space normally used for the employee's name. This will protect the privacy of the injured or ill employee when another employee, a former employee, or an authorized employee representative is provided access to the OSHA 300 Log. The company will keep a separate, confidential list of the case numbers and employee names for your privacy concern cases so that we can update the cases and provide the information to the government if asked to do so.

At the end of each calendar year, RSO performs the following steps:

1. Reviews OSHA 300 Log of Work-Related Injuries and Illnesses to verify that the entries are complete and accurate,

2. Corrects any deficiencies identified in the entries,

3. Creates an annual summary of injuries and illnesses recorded on OSHA 300 Log of Work-Related Injuries and Illnesses,

4. Ensures that he/she, [RSO Name], who is the RSO and “President” of the company certifies that he reasonably believes, based on his/her knowledge of the process by which the information was recorded, that the annual summary is correct and complete, and

5. Posts OSHA 300-A Summary of Work-Related Injuries and Illnesses on the Main Office bulletin board from February 1 of the year following the year covered by the records and kept in place until April 30 for a total of three (3) months.

All employees, former employees, their personal representatives, and their authorized employee representatives have a right to access our regulatory-required injury and illness records, with the following limitations:

1. We are allowed to give the requester a copy of OSHA 300 Log of Work-Related Injuries and Illnesses by the end of the next business day.

2. We may choose to not record the employee's name on OSHA 300 Log of Work-Related Injuries and Illnesses in order to protect the privacy of injured and ill employees in certain privacy-concern cases.

3. We are allowed to give an employee, former employee, or personal representative a copy of OSHA 301Form Injury and Illness Incident Report by End of the next business day.

A personal representative is:

- Any person that the employee or former employee designates as such, in writing; or

- The legal representative of a deceased or legally incapacitated employee or former employee.

4. We are allowed to give authorized employee representatives under a collective bargaining agreement a copy of OSHA 301Form Injury and Illness Incident Report within seven (7) calendar days.

5. An authorized employee representative is an authorized collective bargaining agent of employees. The authorized employee representative will be provided the OSHA 301 Incident Report section titled 'Tell us about the case.' The company will remove all other information from the copy of the OSHA 301 Incident Report or the equivalent substitute form that is given to the authorized employee representative.

6. While the first copy is free, we may charge a reasonable amount for retrieving and copying additional copies.

7. Employees also have access to OSHA 300-A Summary of Work-Related Injuries and Illnesses, which is posted on the Main Office bulletin board from February 1 of the year following the year covered by the records and kept in place until April 30 for a total of three (3) months.

COMELCO, INC. does not discriminate against employees who request access to any records or otherwise exercise any rights afforded by the OSH Act.

The RSO saves the following records for (5) years following the end of the calendar year that these records cover:

- OSHA 300 Log, the privacy case list (if one exists),
- The annual summary, and
- The OSHA 301 Incident Report forms.

During the storage period, The RSO updates OSHA 300 Log of Work-Related Injuries and Illnesses to include any newly discovered recordable injuries or illnesses and any changes that have occurred in the classification of

previously recorded injuries and illnesses. If our company changes ownership, [RSO Name] and the President are responsible for transferring the records to the new owner.

Safety Equipment

Proper safety equipment is necessary for your protection. The Company provides the best protective equipment it is possible to obtain. Use all safeguards, safety appliances, or devices furnished for your protection and comply with all regulations that may concern or affect your safety. Wear your gear properly -- all snaps and straps fastened, cuffs not cut or rolled. Your supervisor will advise you as to what protective equipment is required for your job. Certain jobs require standard safety apparel and appliances for the protection of the employee. Your supervisor is aware of the requirements and will furnish you with the necessary approved protective appliances.

These items shall be worn and effectively maintained as a condition of your continued employment and part of our mutual obligation to comply with the Occupational Safety and Health Act. Safety goggles, glasses and face shields shall correspond to the degree of hazard, i.e., chemical splashes, welding flashes, impact hazard, dust, etc. Do not alter or replace an approved appliance without permission from your supervisor. Rubber gloves and rubber aprons shall be worn when working with acids, caustics or other corrosive materials. Specified footwear must be worn. No jewelry shall be worn around power equipment. Hearing protection appliances (approved muffs or plugs) shall be worn by all employees working within any area identified as having excess noise levels. Your supervisor will instruct you in the proper use of the appliance.

Protective Equipment / Clothing

Proper safety equipment is necessary for your protection. The Company provides the best protective equipment it is possible to obtain. Use all safeguards, safety appliances, or devices furnished for your protection and carry out all regulations that may concern or affect your safety. Wear your gear properly - all snaps and traps fastened, cuffs not cut or rolled. Your supervisor will advise you as to what protective equipment is required for your job.

Smoking & Fire Safety

Fire is one of the worst enemies of any facility. Learn the location of the fire extinguishers. Learn how to use them. You can help prevent fires by observing the smoking rules:

- Smoking is not allowed on the site, except in designated areas.
- Smoking is not permitted in restrooms.
- If you are not sure about where you may smoke, ask the supervisor.

Reporting

All serious accidents must be reported to OSHA. In cases of hospitalization or death, a full investigation with copies to governmental authorities will be required. In less serious cases, the investigation report must be presented to the company for disclosure to its insurance carrier and for remedial action at the work site.

CODE OF SAFE PRACTICES

General Safe Practices

1. All persons shall follow these safe practices rules, render every possible aid to safe operations, and report all unsafe conditions or practices to managers or supervisors.
2. Managers and supervisors shall insist on employee's observing and obeying every rule, regulation, and order as is necessary to the safe conduct of the work, and shall take such action as is necessary to obtain observance.
3. All employees shall be given frequent injury and illness prevention instructions.
4. Anyone known to be under the influence of drugs or intoxicating substances which impair the employee's ability to safely perform the assigned duties shall not be allowed on the job while in that condition
5. Running, jumping, horseplay, scuffling, and other acts which tend to have an adverse influence on the safety or well being of the employees shall be prohibited.
6. Work shall be well planned and supervised to prevent injuries in the handling of materials and in working together with equipment.
7. Employees shall be instructed to ensure that all guards and other protective devices are in proper places and adjusted, and shall report deficiencies promptly to the manager or supervisor.
8. Employees shall not enter underground vaults, chambers, tanks, manholes, silos, or other similar confined places that receive little ventilation, unless it has been determined that it is safe to enter.
9. Employees shall not handle or tamper with any electrical equipment, machinery, or air or water lines in a manner not within the scope of their duties, unless they have received instructions from their supervisor or manager. Respect electricity under all circumstances. Never use electrical equipment in areas of excessive moisture unless all safeguards have been taken. Electric power tools are grounded thru approved cords, including extension, for your safety. Never remove or alter polarized cords or plugs.
10. When lifting heavy objects, the large muscles of the leg instead of the smaller muscles of the back shall be used. Learn and practice the proper way to lift or carry material or any object. Do not operate any type of powered material handling or hoisting equipment unless authorized. Get help in handling heavy or bulky loads.
11. Stay clear of heavy earthmoving equipment. Remain aware of warning devices such as bells, horns or whistles. Hard hats are mandatory; always wear one on any construction job. Use other protective gear as recommended when exposed to unusual hazards. Never attempt an operation with which you are not familiar, ask first for specific instructions. Wear suitable work clothes at all times, heavy soled shoes protect against puncture injury.
12. Basic first aid is of value in the event of injury. Know how, it may save a fellow workman from death. Never attempt to move a person who may possibly suffer from an injured spine or other internal injury unless proper methods are completely understood. All injuries shall be reported promptly to the supervisor or manager so that arrangements can be made for medical or first aid treatment.
13. Accident Prevention: All persons must abide by Construction Safety Orders; General Industry Safety Orders and Company rules. Posters and other safety material are displayed for the benefit of employees, read and abide by these suggestions. Give every possible aid in the event of injury.
    14. Accident Reporting: Report all personal injuries to a superior immediately. Obtain authorization for any medical attention off the job. Medical release is necessary before returning to work.
    15. Job Site: Keep work areas free of debris, good housekeeping is essential. Remove or correct any hazards. Never work or pass under suspended loads or equipment.
    16. Work Habits: Assist other trades when necessary to maintain safe operations. Never place yourself, or allow others to work in a dangerous position. Use the

right tool or equipment for all work. Use of any alcoholic beverage is strictly prohibited on the job. Don't be party to horseplay, pranks can be fatal. Construction sites offer unusual hazards, walk and work with all due respect for them.

17. Hand Tools: Always Use the proper tool and maintain them in good condition at all times. Loose or broken handles, mushroom heads, dull blades, improper size or type of tool should never be used.
18. Power Tools: Power activated tools must only be used by licensed personnel. Know the proper method of using, a skill saw; never block back the retractable guard it is for your protection. Never use a tool with which you are not fully experienced.
19. Protective Devices: Hand or guardrails, protective covers, toe-boards, ramps and safety devices installed on various tools are for your safety. Do not tamper with, remove or damage these protective measures. Replace, correct or report any unsafe guard or device.
20. Transportation: When transportation is necessary in other than a passenger vehicle, ride in the cab or sit, do not stand on the bed of the truck. Never ride with arms or legs over the sides, do not sit on the tailgate; it must be closed during transportation of passengers. Be careful of any tools, material or equipment within the truck body which may shift or slide causing injury.
21. Flammables, Solvents: Never use gasoline or other highly volatile liquids for cleaning purposes. Oxygen and acetylene cylinders can be dangerous, secure against rolling or tipping. Do not expose tanks or containers that may contain explosive vapor or liquid to open frame or spark

Special Note: Non-compliance with these regulations will result in disciplinary action.

HAZARD SPECIFIC CODE OF SAFE PRACTICES

General Work Environment

- All worksites clean and orderly.
- Work surfaces kept dry or appropriate means taken to assure the surfaces are slip-resistant.
- All spilled materials or liquids cleaned up immediately.
- Combustible scrap, debris and waste stored safely and removed from the worksite promptly.
- Accumulated combustible dust routinely removed from elevated surfaces, including the overhead structure of buildings.
- Combustible dust cleaned up with a vacuum system to prevent the dust going into suspension.
- Metallic or conductive dust prevented from entering or accumulation on or around electrical enclosures or equipment.
- Covered metal waste cans used for oily and paint-soaked waste.
- All oil and gas fired devices equipped with flame failure controls that will prevent flow of fuel if pilots or main burners are not working.
- Paint spray booths, dip tanks and the like cleaned regularly.
- The minimum number of toilets and washing facilities provided.
- All toilets and washing facilities clean and sanitary.
- All work areas adequately illuminated.
- Pits and floor openings covered or otherwise guarded.

Personal Protective Equipment & Clothing

- Protective goggles or face shields provided and worn where there is any danger of flying particles or corrosive materials.
- Approved safety glasses required to be worn at all times in areas where there is a risk of eye injuries such as punctures, abrasions, contusions or burns.
- Employees who need corrective lenses (glasses or contacts lenses) in working environments with harmful exposures, required to wear only approved safety glasses, protective goggles, or use other medically approved precautionary procedures.
- Protective gloves, aprons, shields, or other means provided against cuts, corrosive liquids and chemicals.
- Hard hats provided and worn where danger of falling objects exists.
- Hard hats inspected periodically for damage to the shell and suspension system.
- Appropriate foot protection required where there is the risk of foot injuries from hot, corrosive, poisonous substances, falling objects, crushing or penetrating actions.
- Approved respirators provided for regular or emergency use where needed.
- All protective equipment maintained in a sanitary condition and ready for use.
- Have eye wash facilities and a quick drench shower within the work area where employees are exposed to injurious corrosive materials.
- Special equipment needed for electrical workers is available.
- When lunches are eaten on the premises, they are eaten in areas where there is no exposure to toxic materials or other health hazards.
- Protection against the effects of occupational noise exposure provided when sound levels exceed those of the OSHA noise standard.
- If any irritant gets into an employee's eyes, call for medical assistance immediately and flush the eye out with clean water.

Walkways

- Aisles and passageways kept clear.
- Aisles and walkways marked as appropriate.
- Wet surfaces covered with non-slip materials.
- Holes in the floor, sidewalk or other walking surface repaired properly, covered or otherwise made safe.
- There is safe clearance for walking in aisles where motorized or mechanical handling equipment is operating.
- Spilled materials cleaned up immediately.
- Materials or equipment stored in such a way that sharp projectiles will not interfere with the walkway.
- Changes of direction or elevations readily identifiable.
- Aisles or walkways that pass near moving or operating machinery, welding operations or similar operations arranged so employees will not be subjected to potential hazards.
- Adequate headroom provided for the entire length of any aisle or walkway.
- Standard guardrails provided wherever aisle or walkway surfaces are elevated more than 30 inches above any adjacent floor or the ground.
- Bridges provided over conveyors and similar hazards.

Floor & Wall Openings

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

Stairs & Stairways

- Standard stair rails or handrails on all stairways having four or more risers.
- All stairways at least 22 inches wide.
- Stairs have at least a 6'6" overhead clearance.
- Stairs angle no more than 50 and no less than 30 degrees.
- Stairs of hollow-pan type treads and landings filled to noising level with solid material.
- Step risers on stairs uniform from top to bottom, with no riser spacing greater than 7-1/2 inches.
- Steps on stairs and stairways designed or provided with a surface that renders them slip resistant.
- Stairway handrails located between 30 and 34 inches above the leading edge of stair treads.

- Stairway handrails have a least 1-1/2 inches of clearance between the handrails and the wall or surface they are mounted on.
- Stairway handrails capable of withstanding a load of 200 pounds, applied in any direction.
- Where stairs or stairways exit directly into any area where vehicles may be operated, adequate barriers and warnings provided to prevent employees stepping into the path of traffic.
- Stairway landings have a dimension measured in the direction of travel, at least equal to width of the stairway.
- The vertical distance between stairway landings limited to 12 feet or less.

Elevated Surfaces

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

Exiting or Egress

- All exits marked with an exit sign and illuminated by a reliable light source.
- The directions to exits, when not immediately apparent, marked with visible signs.
- Doors, passageways or stairways, that are neither exits nor access to exits and which could be mistaken for exits, appropriately marked "NOT AN EXIT", "TO BASEMENT", "STOREROOM", and the like.
- Exit signs provided with the word "EXIT" in lettering at least 5 inches high and the stroke of the lettering at least 1/2 inch wide.
- Exit doors side-hinged.
- All exits kept free of obstructions.
- At least two means of egress provided from elevated platforms, pits or rooms where the absence of a second exit would increase the risk of injury from hot, poisonous, corrosive, suffocating, flammable, or explosive substances.
- There sufficient exits to permit prompt escape in case of emergency.
- Special precautions taken to protect employees during construction and repair operations.
- The number of exits from each floor of a building, and the number of exits from the building itself, appropriate for the building occupancy load.
- Exit stairways which are required to be separated from other parts of a building enclosed by at least two hour fire-resistive construction in buildings more than four stories in height, and not less than one-hour fire resistive construction elsewhere.
- Ramps are used as part of required exiting from a building, with the ramp slope limited to 1- foot vertical and 12 feet horizontal.
- Exiting will be through frameless glass doors, glass exit doors, storm doors, and such are the doors fully tempered and meet the safety requirements for human impact.

Exit Doors

- Doors that are required to serve as exits designed and constructed so that the way of exit travel is obvious and direct.
- Windows that could be mistaken for exit doors, made inaccessible by means of barriers or railings.
- Exit doors openable from the direction of exit travel without the use of a key or any special knowledge or effort, when the building is occupied.
- A revolving, sliding or overhead door prohibited from serving as a required exit door.
- Where panic hardware is installed on a required exit door, it will allow the door to open by applying a force of 15 pounds or less in the direction of the exit traffic.
- Doors on cold storage rooms provided with an inside release mechanism that will release the latch and open the door even if it's padlocked or otherwise locked on the outside.
- Exit doors open directly onto any street, alley or other area where vehicles may be operated, are adequate barriers and warnings provided to prevent employees stepping into the path of traffic.
- Doors that swing in both directions and are located between rooms where there is frequent traffic, provided with viewing panels in each door.

Portable Ladders

- All ladders maintained in good condition, joints between steps and side rails tight, all hardware and fittings securely attached, and moveable parts operating freely without binding or undue play.
- Non-slip safety feet provided on each ladder.
- Non-slip safety feet provided on each metal or rung ladder.
- Ladder rungs and steps free of grease and oil.
- It is prohibited to place a ladder in front of doors opening toward the ladder except when the door is blocked open, locked or guarded.
- It is prohibited to place ladders on boxes, barrels, or other unstable bases to obtain additional height.
- Employees instructed to face the ladder when ascending or descending.
- Employees prohibited from using ladders that are broken, missing steps, rungs, or cleats, broken side rails or other faulty equipment.
- Employees instructed not to use the top 2 steps of ordinary stepladders as a step.
- Portable rung ladders are used to gain access to elevated platforms, roofs, and the like does the ladder always extend at least 3 feet above the elevated surface.
- It is required that when portable rung or cleat type ladders are used the base is so placed that slipping will not occur, or it is lashed or otherwise held in place.
- Portable metal ladders legibly marked with signs reading "CAUTION" "Do Not Use Around Electrical Equipment" or equivalent wording.
- Employees prohibited from using ladders as guys, braces, skids, gin poles, or for other than their intended purposes.
- Employees instructed to only adjust extension ladders while standing at a base (not while standing on the ladder or from a position above the ladder).
- Metal ladders inspected for damage.
- The rungs of ladders uniformly spaced at 12 inches, center to center.

Hand Tools & Equipment

- All tools and equipment (both, company and employee-owned) used by employees at their workplace in good condition.

- Hand tools such as chisels, punches, which develop mushroomed heads during use, reconditioned or replaced as necessary.
- Broken or fractured handles on hammers, axes and similar equipment replaced promptly.
- Worn or bent wrenches replaced regularly.
- Appropriate handles used on files and similar tools.
- Employees made aware of the hazards caused by faulty or improperly used hand tools.
- Appropriate safety glasses, face shields, and similar equipment used while using hand tools or equipment that might produce flying materials or be subject to breakage.
- Jacks checked periodically to assure they are in good operating condition.
- Tool handles wedged tightly in the head of all tools.
- Tool cutting edges kept sharp so the tool will move smoothly without binding or skipping.
- Tools stored in dry, secure location where they won't be tampered with.
- Eye and face protection used when driving hardened or tempered spuds or nails.

Portable (Power Operated) Tools & Equipment

- Grinders, saws, and similar equipment provided with appropriate safety guards.
- Power tools used with the correct shield, guard or attachment recommended by the manufacturer.
- Portable circular saws equipped with guards above and below the base shoe.
- Circular saw guards checked to assure they are not wedged up, thus leaving the lower portion of the blade unguarded.
- Rotating or moving parts of equipment guarded to prevent physical contact.
- All cord-connected, electrically operated tools and equipment effectively grounded or of the approved double insulated type.
- Effective guards in place over belts, pulleys, chains, and sprockets, on equipment such as concrete mixers, air compressors, and the like.
- Portable fans provided with full guards or screens having openings 1/2 inch or less.
- Hoisting equipment available and used for lifting heavy objects, and are hoist ratings and characteristics appropriate for the task.
- Ground-fault circuit interrupters provided on all temporary electrical 15 and 20 ampere circuits, used during periods of construction.
- Pneumatic and hydraulic hoses on power-operated tools checked regularly for deterioration or damage.

Abrasive Wheel Equipment Grinders

- The work rest used and kept adjusted to within 1/8 inch of the wheel.
- The adjustable tongue on the top side of the grinder used and kept adjusted to within 1/4 inch of the wheel.
- Side guards cover the spindle, nut, and flange and 75 percent of the wheel diameter.
- Bench and pedestal grinders permanently mounted.
- Goggles or face shields always worn when grinding.
- The maximum RPM rating of each abrasive wheel compatible with the RPM rating of the grinder motor.
- Fixed or permanently mounted grinders connected to their electrical supply system with metallic conduit or other permanent wiring method.
- Each grinder have an individual on and off control switch.
- Each electrically operated grinder effectively grounded.
- Before new abrasive wheels are mounted, they are visually inspected and ring tested.

- Dust collectors and powered exhausts provided on grinders used in operations that produce large amounts of dust.
- Splashguards mounted on grinders that use coolant, to prevent the coolant reaching employees.
- Cleanliness maintained around grinder.

Powder Actuated Tools

- Employees who operate powder-actuated tools trained in their use and carry a valid operator's card.
- The powder-actuated tools being used have written approval of the Division of Occupational Safety and Health.
- Each powder-actuated tool stored in its own locked container when not being used.
- A sign at least 7" by 10" with bold type reading "POWDER-ACTUATED TOOL IN USE" conspicuously posted when the tool is being used.
- Powder-actuated tools left unloaded until they are actually ready to be used.
- Powder-actuated tools inspected for obstructions or defects each day before use.
- Powder-actuated tools operators have and use appropriate personal protective equipment such as hard hats, safety goggles, safety shoes and ear protectors.

Machine Guarding

- There is a training program to instruct employees on safe methods of machine operation.
- There is adequate supervision to ensure that employees are following safe machine operating procedures.
- There is a regular program of safety inspection of machinery and equipment.
- All machinery and equipment kept clean and properly maintained.
- Sufficient clearance provided around and between machines to allow for safe operations, set up and servicing, material handling and waste removal.
- Equipment and machinery securely placed and anchored, when necessary to prevent tipping or other movement that could result in personal injury.
- There is a power shut-off switch within reach of the operator's position at each machine.
- Electric power to each machine be locked out for maintenance, repair, or security.
- The noncurrent-carrying metal parts of electrically operated machines bonded and grounded.
- Foot-operated switches guarded or arranged to prevent accidental actuation by personnel or falling objects.
- Manually operated valves and switches controlling the operation of equipment and machines clearly identified and readily accessible.
- All emergency stop buttons colored red.
- All pulleys and belts that are within 7 feet of the floor or working level properly guarded.
- All moving chains and gears properly guarded.
- Splashguards mounted on machines that use coolant, to prevent the coolant from reaching employees.
- Methods provided to protect the operator and other employees in the machine area from hazards created at the point of operation, ingoing nip points, rotating parts, flying chips, and sparks.
- Machinery guards secure and so arranged that they do not offer a hazard in their use.
- Special hand tools are used for placing and removing material protect the operator's hands.
- Revolving drums, barrels, and containers required to be guarded by an enclosure that is interlocked with the drive mechanism, so that revolution cannot occur unless the guard enclosure is in place, so guarded.

- Arbors and mandrels have firm and secure bearings and are they free from play.
- Provisions made to prevent machines from automatically starting when power is restored after a power failure or shutdown.
- Machines constructed so as to be free from excessive vibration when the largest size tool is mounted and run at full speed.
- Machinery is cleaned with compressed air, is air pressure controlled and personal protective equipment or other safeguards used to protect operators and other workers from eye and body injury.
- Fan blades protected with a guard having openings no larger than 1/2 inch, when operating within 7 feet of the floor.
- Saws used for ripping, equipped with anti-kick back devices and spreaders.
- Radial arm saws so arranged that the cutting head will gently return to the back of the table when released.

Lockout Blockout Procedures

- All machinery or equipment capable of movement, required to be de-energized or disengaged and blocked or locked out during cleaning, servicing, adjusting or setting up operations, whenever required.
- The locking-out of control circuits in lieu of locking-out main power disconnects prohibited.
- All equipment control valve handles provided with a means for locking-out.
- The lockout procedure require that stored energy (i.e. mechanical, hydraulic, air,) be released or blocked before equipment is locked-out for repairs.
- Appropriate employees provided with individually keyed personal safety locks.
- Employees required to keep personal control of their key(s) while they have safety locks in use.
- It is required that employees check the safety of the lock out by attempting a start up after making sure no one is exposed.
- The power disconnecting means for equipment does not also disconnect the electrical control circuit:
- The appropriate electrical enclosures identified.
- Means provided to assure the control circuit can also be disconnected and locked out.

Electrical

- Workplace electricians familiar with the OSHA Electrical Safety Regulations.
- Specify compliance with OSHA for all contract electrical work.
- All employees required to report as soon as practicable any obvious hazard to life or property observed in connection with electrical equipment or lines.
- Employees instructed to make preliminary inspections and/or appropriate tests to determine what conditions exist before starting work on electrical equipment or lines.
- When electrical equipment or lines are to be serviced, maintained or adjusted, necessary switches are opened, locked-out and tagged whenever possible.
- Portable electrical tools and equipment grounded or of the double insulated type.
- Electrical appliances such as vacuum cleaners, polishers, vending machines grounded.
- Extension cords being used have a grounding conductor.
- Multiple plug adapters prohibited.
- Ground-fault circuit interrupters installed on each temporary 15 or 20 ampere, 120 volt AC circuit at locations where construction, demolition, modifications, alterations or excavations are being performed.

- All temporary circuits protected by suitable disconnecting switches or plug connectors at the junction with permanent wiring.
- Exposed wiring and cords with frayed or deteriorated insulation is repaired or replaced promptly.
- Flexible cords and cables free of splices or taps.
- Clamps or other securing means provided on flexible cords or cables at plugs, receptacles, tools, and equipment and is the cord jacket securely held in place.
- All cord, cable and raceway connections intact and secure.
- In wet or damp locations, electrical tools and equipment are appropriate for the use or location or otherwise protected.
- The location of electrical power lines and cables (overhead, underground, underfloor, other side of walls) is determined before digging, drilling or similar work is begun.
- Metal measuring tapes, ropes, handlines or similar devices with metallic thread woven into the fabric prohibited where they could come in contact with energized parts of equipment or circuit conductors.
- The use of metal ladders is prohibited in area where the ladder or the person using the ladder could come in contact with energized parts of equipment, fixtures or circuit conductors.
- All disconnecting switches and circuit breakers labeled to indicate their use or equipment served.
- Disconnecting means always opened before fuses are replaced.
- All interior wiring systems include provisions for grounding metal parts of electrical raceways, equipment and enclosures.
- All electrical raceways and enclosures securely fastened in place.
- All energized parts of electrical circuits and equipment guarded against accidental contact by approved cabinets or enclosures.
- Sufficient access and working space is provided and maintained about all electrical equipment to permit ready and safe operations and maintenance.
- All unused openings (including conduit knockouts) in electrical enclosures and fittings closed with appropriate covers, plugs or plates.
- Electrical enclosures such as switches, receptacles, junction boxes, etc., provided with tight-fitting covers or plates.
- Disconnecting switches for electrical motors in excess of two horsepower, capable of opening the circuit when the motor is in a stalled condition, without exploding. (Switches must be horsepower rated equal to or in excess of the motor hp rating).
- Low voltage protection is provided in the control device of motors driving machines or equipment, which could cause probably injury from inadvertent starting.
- Each motor disconnecting switch or circuit breaker is located within sight of the motor control device.
- Each motor located within sight of its controller or the controller disconnecting means is capable of being locked in the open position or is a separate disconnecting means installed in the circuit within sight of the motor.
- The controller for each motor is in excess of two horsepower, rated in horsepower equal to or in excess of the rating of the motor is serves.
- Employees who regularly work on or around energized electrical equipment or lines are instructed in the cardiopulmonary resuscitation (CPR) methods.
- Are employees prohibited from working alone on energized lines or equipment over 600 volts.

Lockout Tagout: Control of Hazardous Energy

- Lockout is the preferred method of isolating machines or equipment from energy sources.

- Lockout Tagout will be used to ensure that the machine or equipment is stopped, isolated from all potentially hazardous energy sources, and locked out before employees perform any servicing or maintenance where the unexpected energization or start-up of the machine or equipment or release of stored energy could cause injury such as minor to serious shock, burns (chemical or thermal), cuts, or abrasions.
- All employees are required to comply with the restrictions and limitations imposed upon them during the use of lockout.
- The authorized employees are required to perform the lockout in accordance with this procedure. Servicing is to be done only by trained, authorized employees.
- Each new or transferred affected employee and other employees whose work operations are or may be in the area shall be instructed in the purpose and use of the lockout or tagout procedures.
- All employees, upon observing a machine or piece of equipment which is locked out to perform servicing or maintenance, shall not attempt to start, energize, or use the machine or equipment.
- Contractors are required to utilize this company's procedure except when the contractor can demonstrate that their current lockout procedure affords the same level of safety as the Company's procedure.
- All equipment shall be locked out or tagged out to protect against accidental or inadvertent operations when such operations could cause injury to personnel.
- Do not attempt to operate any switch, valve, or other energy-isolating device where it is locked or tagged out.
- In the event a piece of equipment is to be isolated for a period of time exceeding one normal shift and the isolating means is not capable of being locked out, a reasonable effort will be made to affix a device to the isolating means to make capable of being locked out.
- All authorized employee engaging in lockout tagout activities will follow the written procedure and the guidelines set forth in the Company's Lockout Tagout Program.

Compressors & Compressed Air

- Compressors equipped with pressure relief valves, and pressure gauges.
- Compressor air intakes installed and equipped to ensure that only clean uncontaminated air enters the compressor.
- Air filters installed on the compressor intake.
- Compressors operated and lubricated in accordance with the manufacturer's recommendations.
- Safety devices on compressed air systems checked frequently.
- Before any repair work is done on the pressure system of a compressor, the pressure is bled off and the system locked-out.
- Signs posted to warn of the automatic starting feature of the compressors.
- The belt drive system is totally enclosed to provide protection for the front, back, top, and sides.
- It is strictly prohibited to direct compressed air towards a person.
- Employees prohibited from using highly compressed air for cleaning purposes.
- If compressed air is used for cleaning off clothing, the pressure is reduced to less than 10 psi.
- When using compressed air for cleaning, employees use personal protective equipment.
- Safety chains or other suitable locking devices used at couplings of high pressure hose lines where a connection failure would create a hazard.
- Before compressed air is used to empty containers of liquid, the safe working pressure of the container is checked.
- When compressed air is used with abrasive blast cleaning equipment, the operating valve is a type that must be held open manually.

- When compressed air is used to inflate auto tires, a clip-on chuck and an inline regulator preset to 40 psi is required.
- It is prohibited to use compressed air to clean up or move combustible dust if such action could cause the dust to be suspended in the air and cause a fire or explosion hazard.

Compressed Air Receivers

- Every receiver is equipped with a pressure gauge and with one or more automatic, spring-loaded safety valves.
- The total relieving capacity of the safety valve capable of preventing pressure in the receiver from exceeding the maximum allowable working pressure of the receiver by more than 10 percent.
- Every air receiver provided with a drainpipe and valve at the lowest point for the removal of accumulated oil and water.
- Compressed air receivers periodically drained of moisture and oil.
- All safety valves tested frequently and at regular intervals to determine whether they are in good operating condition.
- There is a current operating permit issued by the Division of Occupational Safety and Health.
- The inlet of air receivers and piping systems is kept free of accumulated oil and carbonaceous materials.

Material Handling

- There is safe clearance for equipment through aisles and doorways.
- Aisleways designated, permanently marked, and kept clear to allow unhindered passage.
- Motorized vehicles and mechanized equipment inspected daily or prior to use.
- Vehicles shut off and brakes set prior to loading or unloading.
- Containers or combustibles or flammables, when stacked while being moved, always separated by dunnage sufficient to provide stability.
- Dock boards (bridge plates) used when loading or unloading operations are taking place between vehicles and docks.
- Trucks and trailers secured from movement during loading and unloading operations.
- Dock plates and loading ramps constructed and maintained with sufficient strength to support imposed loading.
- Hand trucks maintained in safe operating condition.
- Chutes equipped with sideboards of sufficient height to prevent the materials being handled from falling off.
- Chutes and gravity roller sections firmly placed or secured to prevent displacement.
- At the delivery end of rollers or chutes, provisions are made to brake the movement of the handled materials.
- Pallets usually inspected before being loaded or moved.
- Hooks with safety latches or other arrangements used when hoisting materials so that slings or load attachments won't accidentally slip off the hoist hooks.
- Securing chains, ropes, chockers or slings are adequate for the job to be performed.
- When hoisting material or equipment, provisions are made to assure no one will be passing under the suspended loads.
- Material Safety Data Sheets available to employees handling hazardous substances.

Industrial Trucks - Forklifts

- Only trained personnel allowed to operate industrial trucks.
- Substantial overhead protective equipment is provided on high lift rider equipment.
- The required lift truck operating rules posted and enforced.
- Directional lighting is provided on each industrial truck that operates in an area with less than 2 foot candles per square foot of general lighting.
- Each industrial truck has a warning horn, whistle, gong or other device which can be clearly heard above the normal noise in the areas where operated.
- The brakes on each industrial truck capable of bringing the vehicle to a complete and safe stop when fully loaded.
- The industrial truck's parking brake will effectively prevent the vehicle from moving when unattended.
- Industrial trucks operating in areas where flammable gases or vapors, or combustible dust or ignitable fibers may be present in the atmosphere, are approved for such locations.
- Motorized hand and hand/rider trucks so designed that the brakes are applied, and power to the drive motor shuts off when the operator releases his/her grip on the device that controls the travel.
- Industrial trucks with internal combustion engine operated in buildings or enclosed areas, carefully checked to ensure such operations do not cause harmful concentration of dangerous gases or fumes.

Entering Confined Spaces

- Confined spaces thoroughly emptied of any corrosive or hazardous substances, such as acids or caustics, before entry.
- Before entry, all lines to a confined space, containing inert, toxic, flammable, or corrosive materials are valved off and blanked or disconnected and separated.
- It is required that all impellers, agitators, or other moving equipment inside confined spaces be locked-out if they present a hazard.
- Either natural or mechanical ventilation is provided prior to confined space entry.
- Before entry, appropriate atmospheric tests are performed to check for oxygen deficiency, toxic substance and explosive concentrations in the confined space before entry.
- Adequate illumination is provided for the work to be performed in the confined space.
- The atmosphere inside the confined space is frequently tested or continuously monitor during conduct of work.
- There is an assigned safety standby employee outside of the confined space, whose sole responsibility is to watch the work in progress, sound an alarm if necessary, and render assistance.
- The standby employee or other employees are prohibited from entering the confined space without lifelines and respiratory equipment if there is any questions as to the cause of an emergency.
- In addition to the standby employee, there is at least one other trained rescuer in the vicinity.
- All rescuers appropriately trained and using approved, recently inspected equipment.
- All rescue equipment allows for lifting employees vertically from a top opening.
- Are there trained personnel in First Aid and CPR immediately available.
- There is an effective communication system in place whenever respiratory equipment is used and the employee in the confined space is out of sight of the standby person.
- Approved respiratory equipment is required if the atmosphere inside the confined space cannot be made acceptable.
- All portable electrical equipment is used inside confined spaces either grounded and insulated, or equipped with ground fault protection.

- Before gas welding or burning is started in a confined space, hoses are checked for leaks, compressed gas bottles forbidden inside of the confined space, torches lighted only outside of the confined area and the confined area tested for an explosive atmosphere each time before a lighted torch is to be taken into the confined space.
- If employees will be using oxygen-consuming equipment such as salamanders, torches, furnaces, in a confined space, sufficient air is provided to assure combustion without reducing the oxygen concentration of the atmosphere below 19.5 percent by volume.
- Whenever combustion-type equipment is used in confined space, provisions are made to ensure the exhaust gases are vented outside of the enclosure.
- Each confined space is checked for decaying vegetation or animal matter, which may produce methane.
- The confined space is checked for possible industrial waste, which could contain toxic properties.
- If the confined space is below the ground and near areas where motor vehicles will be operating, it is possible for vehicle exhaust or carbon monoxide to enter the space.

Environmental Controls

- All work areas properly illuminated.
- Employees instructed in proper first aid and other emergency procedures.
- Hazardous substances identified which may cause harm by inhalation, ingestion, skin absorption or contact.
- Employees aware of the hazards involved with the various chemicals they may be exposed to in their work environment, such as ammonia, chlorine, epoxies, and caustics.
- Employee exposure to chemicals in the workplace is kept within acceptable levels.
- Whenever possible a less harmful method or product be used.
- The work area's ventilation system is appropriate for the work being performed.
- Spray painting operations done in spray rooms or booths equipped with an appropriate exhaust system.
- Employee exposure to welding fumes is controlled by ventilation, use of respirators, exposure time, or other means.
- Welders and other workers nearby provided with flash shields during welding operations.
- If forklifts and other vehicles are used in buildings or other enclosed areas, the carbon monoxide levels are kept below maximum acceptable concentration.
- There has been a determination that noise levels in the facilities are within acceptable levels.
- Steps being taken to use engineering controls to reduce excessive noise levels.
- Proper precautions being taken when handling asbestos and other fibrous materials.
- Caution labels and signs used to warn of asbestos.
- Wet methods used, when practicable, to prevent the emission of airborne asbestos fibers, silica dust and similar hazardous materials.
- Vacuuming with appropriate equipment is used whenever possible rather than blowing or sweeping dust.
- Grinders, saws, and other machines that produce respirable dusts vented to an industrial collector or central exhaust system.
- All local exhaust ventilation systems designed and operating properly such as airflow and volume necessary for the application. Are the ducts free of obstructions or the belts slipping.
- Personal protective equipment is provided, used and maintained wherever required.
- There written standard operating procedures for the selection and use of respirators where needed.
- Restrooms and washrooms kept clean and sanitary.
- All water provided for drinking, washing, and cooking is potable.

- All outlets for water not suitable for drinking clearly identified.
- Employees' physical capacities assessed before being assigned to jobs requiring heavy work.
- Employees instructed in the proper manner of lifting heavy objects.
- Where heat is a problem, all fixed work areas have been provided with spot cooling or air conditioning.
- Employees screened before assignment to areas of high heat to determine if their health condition might make them more susceptible to having an adverse reaction.
- Employees working on streets and roadways where they are exposed to the hazards of traffic, required to wear bright colored (traffic orange) warning vest.
- Exhaust stacks and air intakes located that contaminated air will not be recirculated within a building or other enclosed area.
- Equipment producing ultra-violet radiation is properly shielded.

Ventilation for Indoor Air Quality

- HVAC system provides at least the quantity of outdoor air required by the State Building Standards Code, Title 24, Part 2 at the time the building was constructed.
- The HVAC system inspected at least annually, and problems corrected.
- Inspection records retained for at least 5 years.

Control of Harmful Substances by Ventilation

- The volume and velocity of air in each exhaust system is sufficient to gather the dusts, fumes, mists, vapors or gases to be controlled, and to convey them to a suitable point of disposal.
- Exhaust inlets, ducts and plenums designed, constructed, and supported to prevent collapse or failure of any part of the system.
- Clean-out ports or doors provided at intervals not to exceed 12 feet in all horizontal runs of exhaust ducts.
- Where two or more different type of operations are being controlled through the same exhaust system, the combination of substances being controlled will not constitute a fire, explosion or chemical reaction hazard in the duct.
- Adequate makeup air is provided to areas where exhaust systems are operating.
- The intake for makeup air is located so that only clean, fresh air, which is free of contaminates, will enter the work environment.
- Where two or more ventilation systems are serving a work area, their operation is such that one will not offset the functions of the other.

Flammable & Combustible Materials

- Combustible scrap, debris and waste materials (i.e. oily rags) stored in covered metal receptacles and removed from the worksite promptly.
- Proper storage practiced to minimize the risk of fire including spontaneous combustion.
- Approved containers and tanks used for the storage and handling of flammable and combustible liquids.
- Are all connections on drums and combustible liquid piping, vapor and liquid tight.
- Are all flammable liquids kept in closed containers when not in use (e.g. parts cleaning tanks, pans).
- Bulk drums of flammable liquids grounded and bonded to containers during dispensing.
- Storage rooms for flammable and combustible liquids have explosion-proof lights.

- Storage rooms for flammable and combustible liquids have mechanical or gravity ventilation.
- Liquefied petroleum gas stored, handled, and used in accordance with safe practices and standards.
- Liquefied petroleum storage tanks guarded to prevent damage from vehicles.
- All solvent wastes and flammable liquids kept in fire-resistant covered containers until they are removed from the worksite.
- Vacuuming used whenever possible rather than blowing or sweeping combustible dust.
- Fire separators placed between containers of combustibles or flammables, when stacked one upon another, to assure their support and stability.
- Fuel gas cylinders and oxygen cylinders separated by distance, fire resistant barriers or other means while in storage.
- Fire extinguishers selected and provided for the types of materials in areas where they are to be used.
    - Class A: Ordinary combustible material fires.
    - Class B: Flammable liquid, gas or grease fires.
    - Class C: Energized-electrical equipment fires.
- If a Halon 1301 fire extinguisher is used, employees can evacuate within the specified time for that extinguisher.
- Appropriate fire extinguishers mounted within 75 feet of outside areas containing flammable liquids, and within 10 feet of any inside storage area for such materials.
- The transfer/withdrawal of flammable or combustible liquids is performed by trained personnel.
- Fire extinguishers mounted so that employees do not have to travel more than 75 feet for a class "A" fire or 50 feet for a class "B" fire.
- Employees trained in the use of fire extinguishers.
- Are extinguishers free from obstructions or blockage.
- All extinguishers serviced, maintained and tagged at intervals not to exceed one year.
- All extinguishers fully charged and in their designated places.
- A record maintained of required monthly checks of extinguishers.
- Where sprinkler systems are permanently installed, the nozzle heads are directed or arranged so that water will not be sprayed into operating electrical switchboards and equipment.
- "NO SMOKING" signs posted where appropriate in areas where flammable or combustible materials are used or stored.
- "NO SMOKING" signs posted on liquefied petroleum gas tanks.
- "NO SMOKING" rules enforced in areas involving storage and use of flammable materials.
- Safety cans used for dispensing flammable or combustible liquids at a point of use.
- All spills of flammable or combustible liquids cleaned up promptly.
- Storage tanks adequately vented to prevent the development of excessive vacuum or pressure as a result of filling, emptying, or atmosphere temperature changes.
- Storage tanks equipped with emergency venting that will relieve excessive internal pressure caused by fire exposure.
- Spare portable or butane tanks, which are sued by industrial trucks stored in accord with regulations.

Fire Protection

- Have a fire prevention plan.
- Plan describes the type of fire protection equipment and/or systems.
- Established practices and procedures to control potential fire hazards and ignition sources.
- Employees aware of the fire hazards of the material and processes to which they are exposed.
- Local fire department well acquainted with your facilities, location and specific hazards.

- Fire alarm system is tested at least annually.
- Fire alarm system is certified as required.
- Interior standpipes and valves are inspected regularly.
- Outside private fire hydrants are flushed at least once a year and on a routine preventive maintenance schedule.
- Fire doors and shutters in good operating condition.
- Fire doors and shutters unobstructed and protected against obstructions, including their counterweights.
- Fire door and shutter fusible links in place.
- Automatic sprinkler system water control valves, air and water pressures checked weekly/periodically as required.
- Maintenance of automatic sprinkler system is assigned to responsible persons or to a sprinkler contractor.
- Sprinkler heads protected by metal guards, when exposed to physical damage.
- Proper clearance is maintained below sprinkler heads.
- Portable fire extinguishers provided in adequate number and type.
- Fire extinguishers mounted in readily accessible locations.
- Are fire extinguishers recharged regularly and noted on the inspection tag.
- Employees periodically instructed in the use of extinguishers and fire protection procedures.

Hazardous Chemical Exposures

- Employees trained in the safe handling practices of hazardous chemicals such as acids, caustics, and the like.
- Employees aware of the potential hazards involving various chemicals stored or used in the workplace--such as acids, bases, caustics, epoxies, and phenols.
- Employee exposure to chemicals is kept within acceptable levels.
- Eye wash fountains and safety showers provided in areas where corrosive chemicals are handled.
- All containers, such as vats and storage tanks labeled as to their contents--e.g. "CAUSTICS".
- All employees required to use personal protective clothing and equipment when handling chemicals (i.e. gloves, eye protection, and respirators).
- Flammable or toxic chemicals kept in closed containers when not in use.
- Chemical piping systems clearly marked as to their content.
- Where corrosive liquids are frequently handled in open containers or drawn from storage vessels or pipelines, adequate means is readily available for neutralizing or disposing of spills or overflows properly and safely.
- Standard operating procedures have been established and are they being followed when cleaning up chemical spills.
- Where needed for emergency use, respirators are stored in a convenient, clean and sanitary location.
- Respirators intended for emergency use adequate for the various uses for which they may be needed.
- Employees prohibited from eating in areas where hazardous chemicals are present.
- Is personal protective equipment provided, used and maintained whenever necessary.
- There are written standard operating procedures for the selection and use of respirators where needed.
- Respirator protection program requires employees to be instructed on the correct usage and limitations of the respirators.
- The respirators NIOSH approved for this particular application.

- They regularly inspected and cleaned sanitized and maintained.
- Hazardous substances are used in your processes require a medical or biological monitoring system in operation.
- Familiar with the Threshold Limit Values or Permissible Exposure Limits of airborne contaminants and physical agents used in your workplace.
- Control procedures have been instituted for hazardous materials, where appropriate, such as respirators, ventilation systems, handling practices, and the like.
- Whenever possible, hazardous substances are handled in properly designed and exhausted booths or similar locations.
- Use general dilution or local exhaust ventilation systems to control dusts, vapors, gases, fumes, smoke, solvents or mists which may be generated in your workplace.
- Ventilation equipment is provided for removal of contaminants from such operations as production grinding, buffing, spray painting, and/or vapor decreasing, and is it operating properly.
- If internal combustion engines are used, carbon monoxide is kept within acceptable levels.
- Vacuuming used, rather than blowing or sweeping dusts whenever possible for clean up.
- Materials, which give off toxic asphyxiant, suffocating or anesthetic fumes, are stored in remote or isolated locations when not in use.

Hazardous Substances Communication

- There is a list of hazardous substances used in your workplace.
- There is a written hazard communication program dealing with Material Safety Data Sheets (MSDS) labeling, and employee training.
- The RSO is responsible for MSDSs, container labeling, employee training.
- Each container for a hazardous substance (i.e. vats, bottles, storage tanks,) is labeled with product identity and a hazard warning (communication of the specific health hazards and physical hazards).
- There is a Material Safety Data Sheet readily available for each hazardous substance used.
- There is an employee training program for hazardous substances. This program include:
    - An explanation of what an MSDS is and how to use and obtain one.
    - MSDS contents for each hazardous substance or class of substances.
    - Explanation of "Right to Know".
    - Identification of where employees can see the employer's written hazard communication program and where hazardous substances are present in their work area.
    - The physical and health hazards of substances in the work area, how to detect their presence, and specific protective measures to be used.
    - Details of the hazard communication program, including how to use the labeling system and MSDSs.
    - How employees will be informed of hazards of non-routine tasks, and hazards of unlabeled pipes.

Noise

- There areas in the workplace where continuous noise levels exceed 85 dBA. (To determine maximum allowable levels for intermittent or impact noise, see Title 8, Section 5097.)
- Noise levels being measured using a sound level meter or an octave band analyzer and records being kept.
- Try isolating noisy machinery from the rest of your operation.
- Engineering controls been used to reduce excessive noise levels.

- Where engineering controls are determined not feasible, administrative controls (i.e. worker rotation) are being used to minimize individual employee exposure to noise.
- There an ongoing preventive health program to educate employees in safe levels of noise and exposure, effects of noise on their health, and use of personal protection.
- The training repeated annually for employees exposed to continuous noise above 85 dBA.
- Work areas where noise levels make voice communication between employees difficult been identified and posted.
- Approved hearing protective equipment (noise attenuating devices) is available to every employee working in areas where continuous noise levels exceed 85 dBA.
- Employees are properly fitted and instructed in the use and care of ear protectors.
- Employees exposed to continuous noise above 85 dBA given periodic audiometric testing to ensure that you have an effective hearing protection system.

Identification of Piping Systems

- When nonpotable water is piped through a facility, outlets or taps are posted to alert employees that it is unsafe and not to be used for drinking, washing or other personal use.
- When hazardous substances are transported through above ground piping, each pipeline is identified at points where confusion could introduce hazards to employees.
- When pipelines are identified by color painting, all visible parts of the line are so identified.
- When pipelines are identified by color painted bands or tapes, the bands or tapes are located at reasonable intervals and at each outlet, valve or connection.
- When pipelines are identified by color, the color code is posted at all locations where confusion could introduce hazards to employees.
- When the contents of pipelines are identified by name or name abbreviation, the information is readily visible on the pipe near each valve or outlet.
- When pipelines carrying hazardous substances are identified by tags, the tags are constructed of durable materials, the message carried clearly ad permanently distinguishable and are tags installed at each valve or outlet.
- When pipelines are heated by electricity, steam or other external source, suitable warning signs or tags are placed at unions, valves, or other serviceable parts of the system.

Transporting Employees & Materials

- Employees who operate vehicles on public thoroughfares have valid operator's licenses.
- When seven or more employees are regularly transported in a van, bus or truck, the operator's license is appropriate for the class of vehicle being driven.
- Each van, bus or truck used regularly to transport employees, is equipped with an adequate number of seats.
- When employees are transported by truck, provisions are provided to prevent their falling from the vehicle.
- Vehicles used to transport employees, equipped with lamps, brakes, horns, mirrors, windshields and turn signals in good repair.
- Transport vehicles provided with handrails, steps, stirrups or similar devices, so placed and arranged that employees can safely mount or dismount.
- Employee transport vehicles equipped at all times with at least two reflective type flares.
- A full charged fire extinguisher, in good condition, with at least 4 B:C rating maintained is in each employee transport vehicle.

- When cutting tools with sharp edges are carried in passenger compartments of employee transport vehicles, they are placed in closed boxes or containers which are secured in place.
- Employees prohibited from riding on top of any load, which can shift, topple, or otherwise become unstable.

Emergency Action Plan

- Have an emergency action plan.
- The emergency action plan complies with requirements of OSHA regulations.
- Emergency escape procedures and routes have been developed and communicated to all employers.
- Employees, who remain to operate critical plant operations before they evacuate, know the proper procedures.
- The employee alarm system that provides a warning for emergency action is recognizable and perceptible above ambient conditions.
- Alarm systems properly maintained and tested regularly.
- The emergency action plan is reviewed and revised periodically.
- Employees now their responsibilities:
    - For reporting emergencies.
    - During an emergency.
    - For conducting rescue and medical duties.

Infection Control

- A training and information program is provided for employees exposed to or potentially exposed to blood and/or body fluids?
- Infection control procedures have been instituted where appropriate, such as ventilation, universal precautions, workplace practices, personal protective equipment?
- Employees are aware of specific workplace practices to follow when appropriate? (Hand washing, handling sharp instruments, handling of laundry, disposal of contaminated materials, reusable equipment.)
- Personal protective equipment is provided to employees, and in all appropriate locations?
- The necessary equipment (i.e. mouth-pieces, resuscitation bags, other ventilation devices) is provided for administering mouth-to-mouth resuscitation on potentially infected patients?
- Facilities/equipment are to comply with workplace practices available, such as hand-washing sinks, biohazard tags and labels, needle containers, detergents/disinfectants to clean up spills?
- All equipment and environmental and working surfaces are cleaned and disinfected after contact with blood or potentially infectious materials?
- Infectious waste is placed in closable, leak proof containers, bags or puncture-resistant holders with proper labels?
- Medical surveillance including HBV evaluation, antibody testing and vaccination has been made available to potentially exposed employees?
- Employees are trained on universal precautions, personal protective equipment and needlestick exposure/management.
- Employee are trained on workplace practices which should include blood drawing, room cleaning, laundry handling, clean-up of blood spills?
- Employees potentially exposed to bloodborne pathogens are offered Hepatitis B vaccinations at no cost to the employee.

Ergonomics

- The work can be performed without eyestrain or glare to the employees.
- Tasks will not require prolonged raising of the arms.
- The neck and shoulders will not have to be stooped to view the task.
- There are no pressure points on any parts of the body (wrists, forearms, back of thighs).
- The work can be done using the larger muscles of the body.
- The work can be done without twisting or overly bending the lower back.
- Sufficient rest breaks, in addition to the regular rest breaks, to relieve stress from repetitive-motion tasks.
- Tools, instruments and machinery shaped, positioned and handled so that tasks can be performed comfortably.
- All pieces of furniture adjusted, positioned and arranged to minimize strain on all parts of the body.

Back & Lifting Safety

Lifting things and moving them from one place to another is a very simple operation. However, if this operation is done incorrectly, it may cause many injuries. You can wrench your back or pull a muscle, or crush or pinch your hands or feet.

- Learn how to lift and prevent injuries.
- Use the right kind of personal protective gear.
- Hand protection and safety shoes are a must for most lifting jobs.
- Some jobs might call for hard hats and goggles.
- If it is too big or too heavy for you to handle alone, get help.
- Check the material for nails, splinters, rough stripping that might injure your hands.

Lifting Procedures:

1. Face the load.
2. Put one foot alongside the object, and one foot behind.
3. Bend at the knees. Let your legs do the work.

4. Keep back straight and the load as close as possible.
5. Get a good, firm grip with the palms of your hands while lifting by straightening your legs.
6. Avoid twisting as you turn with a load. Shift your feet instead.
7. Don't try to lift something above waist level in one motion. Set the load on a table or bench, then change your grip for lifting higher.
8. To put the object down, just follow the lifting procedure, but in reverse

Housekeeping

Office areas are to be kept neat and orderly. The following general rules apply to prevent injuries and maintain a professional appearance.

- All aisles, emergency exits, fire extinguishers, etc., will be kept clear (a minimum of three feet of either side) of material storage (temporary and permanent) at all times.

- Storage areas will be maintained orderly at all times. When supplies are received, the supplies will be stored properly.
- Spills will be cleaned-up immediately and wastes disposed of properly.
- All waste receptacles will be lined with a plastic trash bag to avoid direct contact while handling. Custodial Employees will use rubber gloves and compaction bar when handling wastes.
- Keep file and desk drawers closed when not attended to avoid injuries. Open only one drawer at a time to prevent tipping of file cabinets.
- At the end of the business day, turn off all office equipment (area heaters, lamps, coffee-maker, PCs, etc.) and lights to save energy and prevent fires. All space heaters must be un-plugged at the end of the day to assure they have been turned-off.

Work areas will be kept neat and orderly, during operations and as follows:

- All aisles, emergency exits, fire extinguishers, eye wash stations, etc., will be kept clear (a minimum of three feet in front of and to either side) of product storage, material storage, fork trucks and pallet jacks at all times.
- Spills will be cleaned up immediately.
- All process leaks will be reported to supervision and maintenance for immediate repair and clean-up.
- Utility Employees will be responsible to keep aisles and work floors clear of excessive debris and waste materials during shift operation, between breaks and at shift change when necessary or directed by supervision; however, all Employees are responsible to communicate slippery floors to supervision for immediate clean-up.
- All refuse and waste materials will be placed in the recognized waste containers for disposal.

Restrooms and break areas are provided as a convenience for all Employees. The following rules will apply:

- Employees are expected to clean-up after themselves as a common courtesy to fellow Employees.
- Flammable materials (fire works, explosives, gasoline, etc.) may not be stored in break areas or brought on company property.
- Personal food item will not be stored in break areas overnight.
- All waste receptacles will be lined with a plastic trash bag to avoid direct contact while handling and Custodial Employees will use rubber gloves and compaction bar when handling wastes.
- All refuse and waste materials will be placed in the recognized waste containers for disposal.

Maintenance Areas, the following rules apply:

- All aisles, emergency exits, fire extinguishers, etc., will be kept clear (a minimum of three feet of either side) of material storage (temporary and permanent) at all times.
- Storage Areas will be maintained orderly at all times:
- Pipe stock stored horizontally on racks and sorted by size
- Metal stock stored horizontally on racks and sorted by size
- Sheet metal stock stored vertically in racks and sorted by type
- All fittings, etc., stored in bins on shelves and sorted by type and use
- All flammables stored in OSHA-approved Fire Cabinets and self-closing cans where necessary
- Spills will be cleaned-up immediately by the person responsible and wastes disposed properly.

- All refuse and waste materials will be placed in the recognized waste containers for disposal.

The grounds surrounding our main facility and worksites are an extension of the work place. Grounds that are kept neat and orderly show pride by the Company for Employees, customers and neighbors to enjoy. The following general rules will apply:

- Keep the parts of buildings that are visible to public roads cleaned by washing them at regular intervals.
- Keep the other parts of buildings cleaned at regular intervals.
- Keep all doors and loading docks completely free of debris, shrubs, or other obstructions.
- Maintain visibility through all windows by washing at regular intervals.
- Keep doors and windows properly maintained in good working order.
- Repair any damage to doors and windows at regular intervals.
- All trash will be discarded only in the waste containers provided.
- Park only in the designated assigned area.
- The Maintenance Department will be responsible for grounds keeping (mowing, trimming, etc.) as needed. Maintenance will also establish procedures for ice/snow removal, when necessary, prior to operations each day.
- Provide any stairs or platforms adjacent to or leading into the building(s) with adequate rails, adequate treads to climb, and an area clean and free of materials.
- Keep grounds neat and orderly, free of refuse and unnecessary materials.
- Store materials outdoors only in designated areas of the grounds.
- Provide designated walkways through grounds, preferably paved and kept clear of snow, ice, materials, or any other physical hazards.
- Provide a lighting system that is adequate to allow employees to navigate around the grounds as necessary at dusk and after dark.
- Maintain a neat landscaping appearance--trim lawn, trees and shrubs in such a way as to minimize any possible safety hazards.
- Trim grass short enough to prevent trip hazards to employees.
- Prevent trees and shrubs from obstructing doors and windows.

Material Storage

Proper storage procedures are required for dry, raw materials, flammables and compressed gases storage to prevent fires, keep exits and aisles clear and avoid injuries and illnesses. General rules for material storage are as follows:

- Materials may not be stored any closer than 18 inches to walls or sprinkler heads. A minimum of 3 feet side clearance will be maintained around doorways and emergency exits. Passageways and aisle will be properly marked and a minimum of six feet in width. Materials, fork lifts, pallet jacks, etc., may not be stored in aisles or passageways.
- Aisles and passageways will be kept clear of debris. All spills of materials will be immediately cleaned-up by the person responsible.
- All platforms and racks will have maximum load capacity displayed. The weight of stored material will not exceed the rated load capacity.
- All flammables will be stored in OSHA-approved flammable storage cabinets or stored outside (at least 50 feet from any structure)

- Fuels, solvents and other flammables (not stored in original shipping containers) will be stored in OSHA-approved self-closing containers with flame arresters. Flammables may not be stored in open containers (open parts baths, etc.).
- Flammable storage areas will be kept dry and well ventilated. No storage of combustible materials, open flames or exposed electrical components are permitted in the flammable storage area.
- Flammable or combustible materials may not be stored in electrical rooms. Electrical rooms must be kept clean and dry at all times.
- Inspect bottle for defects & proper marking/labels
- Ensure stamped date on bottle has not expired
- Inspect valve assembly and adapter thread area
- Ensure MSDS is on file or with shipment
- Follow MSDS requirements for storage
- Cylinder cap securely in place when not in use.
- Marked with contents and if empty/full.
- Stored up-right and secured to a stationary structure in an shaded and well ventilated area.
- Cylinders not stored within 50 feet of exposed electrical components or combustible materials.
- Cylinders are protected from accidental rupture.
- Chemically reactive gases not stored within 50 feet of each other.
- Must be secured to a cart or cylinder trolley
- Cap securely fastened
- Inspect valve adapter threads.
- Inspect all fasteners, hoses & regulators prior to hooking up to cylinder.
- Use only for approved purposes.
- Use in up-right position.
- Fasten cylinder to structure or cart.
- Regulators must be of same rated pressure as cylinder
- Keep cylinder valve shut when not in use; don't depend on regulators

Company Vehicles

Some company employees are provided with vehicles for use in their jobs. The following rules apply:

- The company requires all drivers of company vehicles to have current, valid licenses.
- Company policy prohibits anyone without a valid driver’s license from driving a company vehicle.
- An employee who becomes uninsurable by the company's insurance company will be subject to termination.
- Company vehicles are to be used only for job-related activities.
- People who are not employed by the company or who are not assisting in work-related activities should not be transported in company vehicles as passengers because it presents a potential exposure to liability.
- All traffic laws and regulations are to be obeyed.
- Every effort should be made to keep mileage driven to a minimum by combining trips whenever possible. Special circumstances that may require deviation from this policy must first be cleared by your supervisor.
- It is important that when you do drive a company vehicle you obey all traffic regulations, including the 55 miles per hour speed limit. On company roads, a much slower speed should be maintained at all times.

Tire Inflation

- Where tires are mounted and/or inflated on drop center wheels a safe practice procedure is posted and enforced.
- Where tires are mounted and/or inflated on wheels with split rims and/or retainer rings a safe practice procedure is posted and enforced.
- Each tire inflation hose has a clip-on chuck with at least 24 inches of hose between the chuck and an in-line hand valve and gauge.
- The tire inflation control valve is automatically shut off the airflow when the valve is released.
- A tire restraining device such as a cage, rack or other effective means is used while inflating tires mounted on split rims, or rims using retainer rings.
- Employees strictly forbidden from taking a position directly over or in front of a tire while it's being inflated.

Fueling

- It is prohibited to fuel an internal combustion engine with a flammable liquid while the engine is running.
- Fueling operations done in such a manner that likelihood of spillage will be minimal.
- When spillage occurs during fueling operations, the spilled fuel is cleaned up completely, evaporated, or other measures taken to control vapors before restarting the engine.
- Fuel tank caps replaced and secured before starting the engine.
- In fueling operations there is always metal contact between the container and fuel tank.
- Fueling hoses of a type designed to handle the specific type of fuel.
- It is prohibited to handle or transfer gasoline in open containers.
- Open lights, open flames, or sparking or arcing equipment prohibited near fueling or transfer of fuel operations.
- Smoking prohibited in the vicinity of fueling operations.
- Fueling operations prohibited in building or other enclosed areas that are not specifically ventilated for this purpose.
- Where fueling or transfer of fuel is done through a gravity flow system, the nozzles are of the self-closing type.

Working in the Cold

- Wearing the proper clothes may be the most significant precaution to reducing cold stress. Wearing appropriate clothes for cold weather involves using three layers of clothing. Also use layering to protect the head, hands, and feet.
- Drink plenty of fluids, preferably warm, sweet beverages. Thirst is suppressed in a cold environment and dehydration may occur when fluid intake is reduced.
- Increase caloric intake when working in cold environments. Workers in cold environments who wear heavy, protective clothing expend more heat and so require 10-15 percent more calories.
- A work warm-up schedule should be used to provide periodic times for warm-up breaks. Additional breaks should be provided as the wind velocity increases and/or the temperature drops.
- Avoid taking certain drugs such as alcohol, nicotine, caffeine, and medication that inhibits the body's response to cold or impairs judgment.
- Avoid the cold if you are becoming exhausted or immobilized. These conditions can accelerate the effects of cold weather.

- Shield work areas from drafty or windy conditions. Provide a heated shelter for workers with prolonged exposure to equivalent wind-chill temperatures of 20◦ F or less.
- Select the warmest hours of the day when braving the cold. Minimize activities that reduce circulation.
- Educate employees on symptoms of cold-related stresses: heavy shivering, uncomfortable coldness, severe fatigue, drowsiness, and/or euphoria.
- Use the buddy system. Always work in pairs when working in extreme weather conditions so partners can monitor one another and obtain help quickly in an emergency.

Working in the Heat

- Cooling pads inserted into hardhats or around the neck can help keep the head and neck cooler. Vented hardhats are also available to prevent heat buildup by allowing air to pass through. Neckbands soaked in cold water and worn during the day may also keep workers more comfortable, and wearing cooling vests might also help.
- Protective eyewear offering sufficient ventilation or special lens coatings can help reduce lens fogging in hot conditions. Sweatbands can be worn to absorb perspiration on the forehead before it drips into the eyes.
- Gloves used for hand protection can be cumbersome and also increase workers' heat complaints. Breathable products, employing nylon mesh or containing perforations, are available to reduce heat buildup. Select a glove that has a liner to absorb sweat.
- Maintaining proper hydration is essential. In some settings, workers can produce two or more gallons of sweat in a day. The National Institute for Occupational Safety and Health (NIOSH), recommends drinking five to seven ounces of fluids (excluding coffee, tea, soda, or alcohol) every 15-20 minutes to replenish the body.
- Physically demanding tasks should be limited to the coolest part of the shift and workers should take frequent breaks in cool areas.

SAFETY TRAINING

COMELCO, INC. is committed to instructing all employees in safe and healthy work practices. The Company will provide training to each employee with regard to general, acceptable, safety procedures and to any hazards or safety procedures that are specific to that employee's work situation. Training can take many forms and is synonymous with education and can be attained in a number of ways.

- Company Safety Rules: Employees should read the rules and understand them. The issuance of these rules should be logged and signed receipts should be kept on file. Each new employee, as he arrives on the job, should be approached in the same manner.

- Periodic Safety Talks – the company should attempt to hold a safety talk with their employees on a weekly or at least monthly basis. The talk may consist merely of restating the company safety rules or warning of dangerous conditions which exist. A particular subject may be covered, such as lockout tagout, confined space, or fire prevention.

- Changed Conditions -When a of the job operation changes or when new hazardous materials are brought into the workplace, employees should be made aware of new or added potential dangerous situations that might occur and the proper action employees can take to maintain a safe workplace.

- Safety Equipment -Employees should not simply be issued protective equipment. They should be instructed as to its proper and safe use.

- Consistency/Redundancy -The employer must consistently and routinely entertain the concept of safety training. Once is not enough. At the orientation meeting of new employees, on through the follow-up weekly/monthly safety talks, the central theme must be to dwell on employees not committing unsafe acts.

- Management Follow-Up -Management must not be content with advising employees on unsafe practices. A follow-up of employee actions must be made. The Supervisor(s) must be instructed to watch for employees committing unsafe acts. Employees should be reprimanded when found doing unsafe acts. (See disciplinary program)

- Documentation -All actions taken by Management as it relates to Safety Training/Education should be documented. Documentation of good faith efforts in meeting the training requirements can be invaluable in defending a lawsuit that results from an injury due to an unsafe act by an employee. Also, documentation substantiates your commitment to and compliance with the OSHA Training Requirements.

- Individual/Group Instruction -Safety Education can be aimed at a group such as at a weekly/monthly safety talk or at an individual as in a case where the employee is being given instruction on use of a new tool, etc., by the Supervisor. Whichever the case may be, it should be documented.

In Closing

Safety training must be ongoing. It must be given to all employees and members of management. Documentation of instruction and other forms of safety awareness techniques must be made. Never assume everyone knows the safest way of performing his or her task.

DRUG & ALCOHOL FREE WORKPLACE

Purpose

COMELCO, INC. is dedicated to the protection of its employees from situations arising from substance abuse. To ensure that its workforce is productive, its facility is safe, and the success of its business is not hindered by substance abuse, [Company Name] has established a Substance Abuse Program. At the same time, the program will promote morale and reduce absenteeism, accident potential, and health and workers' compensation insurance.

Administrative Duties

Our company's Substance Abuse Program Administrator, is responsible for developing and maintaining the written substance Abuse Program. This person is solely responsible for all facets of the program and has full authority to make necessary decisions to ensure the success of this program. The Substance Abuse Program Administrator is also qualified via appropriate training and experience that is commensurate with the complexity of the program to administer or oversee it and conduct the required evaluations of program effectiveness.

Company Policy

Because our company is concerned about

Workplace safety,
Worker health,
Product quality,
Productivity,
Public liability, or
Regulatory compliance.

it is committed to a drug- and alcohol-free workplace. Our company substance abuse policy statement is as follows:

> *The possession, sale, or use of illegal drugs is inconsistent with the company's objective of operating in a safe and efficient manner. Accordingly, no officer, employee, agent, contractor, or visitor shall use or have in his or her possession illegal drugs during working hours or on company property at any time. Additionally, no officer, employee, agent, or contractor shall report to work while under the influence of alcohol or illegal drugs.*

The services of any employee who engages in such conduct will be subject to discipline up to and including discharge per vested authority. The only exception is the taking of prescribed drugs under the direction of a physician. The unlawful involvement with drugs or narcotics off company property will constitute grounds for severe disciplinary action, up to and including termination of employment.

COMELCO, INC. will give each employee a copy of our drug-free workplace policy statement.

If you have a substance abuse problem, it is your responsibility to seek and complete treatment. If you think someone you know (like a co-worker or a family member) has a drug problem, you could tell the person that, based on what you've seen, you believe something is happening and it concerns you. Urge that person to get help. If nothing is done, that person could adversely affect the well being of not only himself/herself, but you, your family, and the company.

Drug and Alcohol Testing

We retain the right to test our employees for alcohol and drugs according to the following guidelines:

- Testing of potential new hires for the presence of drugs will be required at the sole discretion of [Company Name]'s management.
- Employees who exhibit through identification of abnormal job performance or behaviors which suggest that drug or alcohol abuse may be a factor, may be requested to test for the presence of alcohol of drug test.
- All employees will undergo unannounced drug testing based on a computerized random selection process.
- Will involve any employee in an accident or contributing to an accident as defined in this policy.
- All employees who receive some form of rehabilitation may be required to undergo a drug test.

If a test reveals a positive result, then the employee(s) will be subject to disciplinary action up to including termination of employment.

See the Drug and Alcohol Testing section later in this written program for more details.

Company-Sponsored Activities

The Company prohibits the use of alcohol during company-sponsored activities.

Supervisor Training

Supervisors are the key to the success of our policy. As the people in direct contact with employees, supervisors can detect performance problems that may indicate substance abuse. Supervisors are responsible for:

- Observing and documenting unsatisfactory work performance or behavior;
- Talking to employees about work problems and what needs to be done about them (i.e., contacting the Employee Assistance Program or local resources); and
- Other responsibilities.

In order to carry out their responsibilities properly, supervisors must understand the substance abuse policy, be able to explain the policy to employees, and know when to take action.

Our supervisors are *not* responsible for diagnosing substance abuse problems and treating substance abuse problems.

Our supervisors are trained to observe employees' job performance noting the following items:

- Physical signs: Unusual clumsiness and frequent illness;
- Mood: Unusually lighthearted one day and depressed the next;
- Absenteeism: More than usual;
- Actions: Violent reactions when things go wrong or when upset;
- Accidents: Increased number of accidents; and
- Relationships: Easily irritated by others; would prefer being left alone rather than interacting with other employees.

Other training topics we cover with our supervisors include the following:

- Information on specific drugs,
- Methods of detecting drug and alcohol use,
- Insurance coverage for substance abuse treatment,
- Prevention and education strategies, and
- Background on drug testing issues and how the drug testing program relates to the EAP.

The company training program uses classroom instruction that uses lectures, discussions, videotapes, and/or conference formats.

The Human Resources Department is responsible for providing supervisor training.

The Human Resource Director and/or RSO is responsible for conducting the training.

Employee Education and Awareness

Our employees must understand and remain aware of our ongoing commitment to a drug-free workplace. All new and current employees must successfully complete [Company Name]'s Employee Education and Awareness Program.

The Human Resource Department will identify when each employee will receive retraining. The Human Resources Department and/or RSO is responsible for conducting this training.

The company training program uses Classroom instruction including lecture, discussion, videotape, and/or conferences.

Through training, [Company Name] ensures that employees are knowledgeable in the following:

- Dangers of drug abuse,
- Our drug-free workplace policy,
- The availability of any drug counseling programs,
- The possible penalties for drug abuse violations occurring in the workplace,
- Your company's EAP and its services,
- How drugs and alcohol actually affect the company and the employee including productivity,
- Product quality,
- Absenteeism,
- Health care costs and/or accident rates,

- Testing procedures,
- Health effects of alcohol and drugs,
- How drugs affect the community,
- Illegal drugs (what they look like, how they are used, their effects),
- The symptoms of overdose and withdrawal,
- How the use of alcohol and drugs can influence their children's behavior,
- How to help others avoid involvement in substance abuse, and
- How to recognize the signs of substance abuse.

Drug and Alcohol Testing

Our drug and alcohol testing program is also part of our Substance Abuse Program. We have set up a drug testing program for the following reasons:

- It is the right business decision for your company; or
- The work your employees do falls under rules that require drug testing.

Recordkeeping

Human Resource Department is responsible for maintaining all records and documentation related to employee training and testing.

Conviction Notification

COMELCO, INC. will ensure that the contracting agency is notified within 10 days after receiving notice that an employee has been convicted of violating any criminal drug statute.

Employee Sanction

[Company Name] will ensure that any employee who is convicted of violating any criminal drug statute, will have sanctions imposed or will be required to satisfactorily participate in a drug abuse assistance or rehabilitation program.

WORKPLACE VIOLENCE PREVENTION

Company Policy

Our establishment, [Company Name] is committed to our employees' safety and health**.** We refuse to tolerate any form of violence in the workplace and will make every effort to prevent violent incidents from occurring by implementing a Workplace Violence Prevention Program (WVPP)**.** We will provide adequate authority and budgetary resources to responsible parties so that our goals and responsibilities can be met.

All managers, supervisors and employees are responsible for implementing and maintaining our WVPP Program**.** We encourage employee participation in designing and implementing our program**.** We require prompt and accurate reporting of all violent incidents whether or not physical injury has occurred**.** We will not discriminate against victims of workplace violence.

A copy of this policy statement and WVPP Plan is readily available to all employees and from each manager and supervisor.

Our plan ensures that all employees, including supervisors and managers, adhere to work practices that are designed to make the workplace more secure, and do not engage in verbal threats or physical actions which create a security hazard for others in the workplace.

All employees, including managers and supervisors, are responsible and accountable for using safe work practices, for following all directives, policies and procedures, and for assisting in maintaining a safe and secure work environment.

The management of our establishment is responsible for ensuring that all safety and health policies and procedures involving workplace security are clearly communicated and understood by all employees**.** Managers and supervisors are expected to enforce the rules fairly and uniformly.

The WVPP Plan will be reviewed and updated annually.

Responsibility and Accountability

The Workplace Violence Prevention Program Administrator has the authority and responsibility for implementing the provisions of this program for [Company Name]. All managers, supervisors and employees are responsible for implementing and maintaining the WVPP in their work areas and for answering employee questions about the program.

In addition, a WVPP Planning Group will be established to assess the vulnerability to workplace violence at our establishment and reach agreement on preventive actions to be taken**.** This group will be responsible for developing employee training programs in violence prevention and plans for responding to acts of violence**.** They will also audit our overall Workplace Violence Prevention Program.

The Workplace Violence Prevention Group will consist of:

Compliance

All employees are responsible and will be held accountable for using safe work practices, for following all directives, policies and procedures, and for assisting in maintaining a safe and secure work environment.

Managers, supervisors and employees will comply with work practices that are designed to make the workplace more secure, and will not engage in threats or physical actions which create a security hazard for others in the workplace. Managers and supervisors will:

- Inform employees, supervisors and managers about our Workplace Violence Prevention Program.
- Evaluate the performance of all employees in complying with our establishment's workplace security measures.
- Recognize employees who perform work practices which promote security in the workplace.
- Provide training and/or counseling to employees who need to improve work practices designed to ensure workplace security.
- Discipline employees for failure to comply with workplace security practices.
- Follow established workplace security directives, policies and procedures.

Managers and supervisors will maintain an open, two-way communications system on all workplace safety, health and security issues. Our establishment has a communication system designed to encourage a continuous flow of safety, health and security information between management and our employees without fear of reprisal and in a form that is readily understandable**.** Our communication system consists of the following items:

- New employee orientation on our establishment's workplace security policies, procedures and work practices.
- Periodic review of our Workplace Violence Prevention Program with all personnel.
- Training programs designed to address specific aspects of workplace security unique to our establishment.
- Regularly scheduled safety meetings with all personnel that include workplace security discussions.
- A system to ensure that all employees, including managers and supervisors, understand the workplace security policies.
- Posted or distributed workplace security information.
- A system for employees to inform management about workplace security hazards or threats of violence.
- Procedures for protecting employees who report threats from retaliation by the person making the threats.

Hazard Assessment

The Workplace Violence Prevention Group will perform workplace hazard assessment for workplace security in the form of record keeping and review, periodic workplace security inspections, and a workplace survey**.** The assessment group will identify workplace violence and security issues and make recommendations to management and employees.

Recordkeeping and Review

note: Care must be taken to ensure appropriate confidentiality of medical and personnel records, as required by State Administrative Rules, The ADA (Americans with Disabilities Act) and other applicable regulations or policies.

Periodic updates and reviews of the following workplace violence reports and records will be made:

- Occupational Safety and Health Administration (OSHA) 300 logs
- Workplace violence incident reports
- Information compiled for recording assault incidents or near-assault incidents (i.e. Threat & Assault Log)
- Insurance records
- Police reports
- Workplace survey
- Accident investigations
- Training records
- Grievances
- Inspection information
- Other relevant records or information

The records review annually, except for training records of employees who have worked for less than one year which are provided to the worker upon termination of employment. OSHA 300 Logs are reviewed and maintained per applicable OSHA requirements.

Workplace Security Inspections

Periodic inspections to identify and evaluate workplace security hazards and threats of workplace violence will be performed by the following observer(s) in the following areas of our workplace:

Observer	Area

Periodic inspections are performed according to the following schedule:

- Monthly;
- When we initially established our Workplace Violence Prevention Program;
- When new, previously unidentified security hazards are recognized;
- When occupational injuries or threats of injury occur; and
- Whenever workplace security conditions warrant an inspection.

Periodic inspections for security hazards consist of identification and evaluation of workplace security hazards and changes in employee work practices, and may require assessing for more than one type of workplace violence**.** Our establishment performs inspections for each type of workplace violence by using

the methods specified below to identify and evaluate workplace security hazards.

Inspections for workplace security hazards from violence by strangers (Type 1) include assessing:

- The exterior and interior of the workplace for its attractiveness to robbers.
- The need for security surveillance measures, such as mirrors or cameras.
- Posting of signs notifying the public that limited cash is kept on the premises.
- Procedures for employee response during a robbery or other criminal act.
- Procedures for reporting suspicious persons or activities.
- Posting of emergency telephone numbers for law enforcement, fire and medical services where employees have access to a telephone with an outside line.
- Limiting the amount of cash on hand and using time access safes for large bills.
- Staffing levels during evening hours of operation and at other high risk times.
- The use of work practices such as "buddy" systems, as appropriate, for identified risks (e.g., walking employees to their cars or mass transit stops at the end of the work day).
- Adequacy of lighting and security for designated parking lots or areas.

Inspections for workplace security hazards from violence by customers or clients (Type 2) include assessing:

- Access to, and freedom of movement within, the workplace.
- Adequacy of workplace security systems, such as door locks, security windows, physical barriers and restraint systems.
- Frequency and severity of threatening or hostile situations that may lead to violent acts by persons who are service recipients of our establishment.
- Employees' skill in safely handling threatening or hostile service recipients.
- Effectiveness of systems and procedures to warn others of a security danger or to summon assistance, e.g. alarms or panic buttons.
- The use of work practices such as "buddy" systems, as appropriate, for identified risks (e.g., walking employees to their cars or mass transit stops at the end of the work day).
- Adequacy of lighting and security for designated parking lots or areas.
- The availability of employee escape routes.

Inspections for workplace security hazards from violence by co-workers (Type 3) include assessing:

- How well our establishment's anti-violence policy has been communicated to employees, supervisors and managers.
- How well our establishment's management and employees communicate with each other.
- How well our employees, supervisors and managers know the warning signs of potential workplace violence.
- Access to, and freedom of movement within, the workplace by non-employees, specifically recently discharged employees.
- Frequency and severity of employee-reported threats of physical or verbal abuse by managers, supervisors or other employees.
- Any prior violent acts, threats of physical violence, verbal abuse, property damage or other signs of strain or pressure in the workplace.
- Employee disciplinary and discharge procedures.

Inspection for workplace security hazards from violence by personal relations include assessing:

- Access to, and freedom of movement within, the workplace by non-employees, specifically personal relations with whom one of our employee's is having a dispute.

- Frequency and severity of employee-reported threats of physical or verbal abuse which may lead to violent acts by a personal relation.
- Adequacy of workplace security systems, such as door locks, security windows, and physical barriers.
- Any prior violent acts, threats of physical violence, verbal abuse, property damage or other signs.
- The use of work practices such as "buddy" systems, as appropriate, for identified risks (e.g., walking employees to their cars or mass transit stops at the end of the work day).
- Adequacy of lighting and security for designated parking lots or areas.
- Warnings or police involvement to remove personal relations of employees from the worksite and effectiveness of restraining orders.

Workplace Survey

Under the direction of the Workplace Violence Prevention Administrator & Group, we distributed a survey among all of our employees to identify any additional issues that were not noted in the records review or the security inspection.

Workplace Hazard Control and Prevention

The Threat Assessment Team should identify and institute a combination of control measures designed to eliminate or mitigate the risks of violence incidents. Traditional methods of engineering and administrative controls include the following:

Engineering Controls	Administrative Controls
• Control access to building	• Train employees in emergency action and safety
• Enhance outside visibility of entrances	• Develop escape plans
• Install interior and exterior lighting	• Develop working relationships with local authorities
• Install security devices, such as, alarms, video cameras, corner mirrors, etc.	• Close business during late evening and night hours
• Hire and train security personnel	• Assign two or more employees to work at all times
• Install bullet-resistant glass in reception area	• Provide escort to accompany staff to parking lots
• Use drop safes to minimize cash on hand	• Provide management support during emergencies
	• Respond promptly to all complaints
	• Require employees to report violence incidents to management

Training and Instruction

We have established the following policy on training all employees with respect to workplace violence and security.

All employees, including managers and supervisors, shall have training and instruction on general and job-specific workplace security practices**.** Training and instruction shall be provided when the Workplace Violence Prevention Program is first established and periodically thereafter**.** Training shall be provided to all new employees and to other employees for whom training has not previously been provided. It shall also be provided to all employees, supervisors, and managers given new job assignments for which specific workplace security training for the job assignment has not previously been provided. Additional training and instruction will be provided to all personnel whenever the employer is made aware of new or previously unrecognized security hazards.

General workplace violence and security training and instruction includes, but is not limited to, the following:

- Explanation of the Workplace Violence Prevention Program including measures for reporting any violent acts or threats of violence.
- Recognition of workplace security hazards including the risk factors associated with the four types of violence.
- Measures to prevent workplace violence, including procedures for reporting workplace security hazards or threats to managers and supervisors.
- Ways to defuse hostile or threatening situations.
- Measures to summon others for assistance.
- Employee routes of escape.
- Notification of law enforcement authorities when a criminal act may have occurred.
- Emergency medical care provided in the event of any violent act upon an employee.
- Post-event trauma counseling for those employees desiring such assistance.

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

We have chosen the following items for training and instruction for managers, supervisors and employees:

- Crime awareness.
- Location and operation of alarm systems, panic buttons and other protective devices.
- Communication procedures.
- Proper work practices for specific workplace activities, occupations or assignments, such as late night retail sales, taxi-cab driver, security guard, law enforcement, health care, public transportation, etc.
- Self-protection.
- Dealing with angry, hostile or threatening individuals.
- Using the "buddy" system or other assistance from co-employees.
- Awareness of indicators that lead to violent acts by service recipients.
- Employee assistance programs.

- Review of anti-violence policy and procedures.
- Managing with respect and consideration for employee well-being.
- Pre-employment screening practices.
- Role playing a violent incident.

Incident Investigation

Our procedures for investigating incidents of workplace violence—threats and physical injury—include:

- Reviewing all previous incidents.
- Visiting the scene of an incident as soon as possible.
- Interviewing threatened or injured employees and witnesses.
- Examining the workplace for security risk factors associated with the incident, including any previous reports of inappropriate behavior by the perpetrator.
- Determining the cause of the incident.
- Taking corrective action to prevent the incident from recurring.
- Recording the findings and corrective actions taken.

RETURN-TO-WORK PROGRAM

COEMLCO, INC's medically restricted return-to-work (RTW) program is a key component in the case management of work-related injuries or illnesses and some long-standing statistics support this as fact. The Bureau of Labor Statistics (BLS) reports that the longer an injured/ill employee is off work, the chances of the employee ever returning to work decreases dramatically.

According to BLS, if an employee is off work for six months due to a work-related injury/illness, there is only a 50 percent chance the employee will ever return to work. If an employee is off for one year, there is only a 25 percent chance of the employee returning to work. If an employee is off for two years, there is virtually no chance of the employee ever returning to work.

Effective RTW programs seek to bring employees back to work after an absence due to an injury or illness that physically restricts the worker. When injured or ill employees are off work for an extended period of time, they often develop a set of common problems other than the injury or illness itself.

Examples of common problems may include:

- Progressive loss of self-esteem and depression
- Fear of re-injury, and of a delayed recovery
- Exaggeration of the physical and psychological demands of their job
- A feeling of loss of control over their lives, often seeing themselves as victims
- Marital or family problems
- Alcohol/substance/medication abuse
- Weight gain

Program Objectives

The primary goals of establishing an effective, well-managed, medically restricted return-to-work program are to decrease costs associated with disability, improve outcomes through a speedy recovery, and generally improve employee morale.

An effective RTW program should benefit all employees, whether or not the disability is work-related. To reserve assistance for only work-related cases tends to encourage employees to turn non-work-related disabilities into workers' compensation claims to get the additional benefits. It also sends the message that you are only concerned with managing these costs.

The likelihood of a successful RTW program is enhanced if both the injured employee and you perceive it as being beneficial. Unfortunately, the general rule is that employees and employers often hold diverging perspectives concerning the consequences of a work injury. Understanding the perspectives of each is necessary in dealing effectively with work injury and work re-entry.

[Company Name]'s development and continued adherence to a philosophy that focuses on employees as the most valued asset is most important in bridging the differences between each viewpoint. In keeping with this philosophy, it is important for [Company Name] to make every attempt to accommodate not only employees suffering a work-related injury/illness, but also those temporarily or permanently disabled from performing their customary jobs due to personal injuries/illnesses.

Influencing Factors

Multiple factors may potentially affect an employee's return to work following a work-related injury/illness. Work re-entry may be affected by the following:

- Medical status
- Physical capabilities and limitations
- Physical status
- Work tolerance
- Psychological/behavioral resources
- Worker traits
- Psychological readiness
- Pain management
- Work demands
- Bio-mechanical (physical)
- Psychological

Employee Education

COMELCO, INC. informs all employees which company representative will be following the medical case to ensure best possible care. The Company will be assisting in a safety investigation to provide accurate information to the insurance carrier.

Many employees have the sense of being out of control and at the mercy of the system; however, providing education, and establishing responsibilities for return-to-work issues can put them back in control. Providing this information in a caring way can help their self-esteem and give them confidence that they are an important part of the team. [Company Name] focuses on the employee's well-being so that the Company is not perceived as pushy or nosy, acting as a resource and a liaison, and allaying fears that they will lose benefits for asking questions.

Worker Support

COMELCO, INC. has a policy whereby management personnel or the immediate supervisor is on hand immediately after the injury. When the employee needs emergency medical treatment, someone should accompany the employee to the hospital/physician's office, even if the employee is taken by ambulance, thus reassuring the injured worker that he/she will receive proper care.

There may be urgent questions regarding the employee's work environment or exposure that the company nurse/supervisor can provide for the medical provider. The supervisor can inform the provider that work restrictions will be accommodated if at all possible.

While an employee is off work, the supervisor should maintain regular contact with the injured employee, at least weekly; personal contact at the employee's residence is best. If that is not possible, maintain regular telephone contact. This ensures the employee that he/she is obtaining appropriate, quality, timely, and effective therapy. In addition, it assists the worker with any problems that have arisen concerning his/her care or compensation. Finally, this contact facilitates communication between the company and medical provider allowing for a smooth transition back to work.

The Supervisor's Role

Management and supervisory personnel must understand all the components of work injury, and they need to appreciate their role in the management of the injury. At our company, it may mean that someone accompany the individual to the doctor, or supervise the restricted duty.

COMELCO, INC.'s policy is made known to supervisors, and indicates what their roles are within the company. In general, the supervisory staff is taught how to stay in weekly contact with the employee while he/she is off work, and to offer support when he/she returns.

The Company enlists the supervisor's involvement and cooperation and participation in:

- Knowing the facts surrounding the incident by being involved in the investigation.
- Knowing the nature of the injury, and how long any resulting disability or restricted duty is likely to last.
- Reviewing the return to work restrictions by consulting with others if necessary - nurse, treating physician, human resources, or safety personnel.
- Being responsible for the identification of appropriate restricted duty, consistent with the physician's recommendations. The job or task should be meaningful and necessary, but need not be necessarily desirable in the employee's mind.
- Being responsible to see that the injured worker assigned to a restricted duty job understands his/her restrictions.
- Maintaining regular and personal contact with the injured worker.
- Determining the source of any problems the employee experiences in the performance of the assigned, restricted duties; the supervisor should determine the source of these problems and deal with them accordingly.

Communicating With the Medical Provider

Communication with the treating doctor is one of the most important factors in return-to-work programs. The Company will provide the attending physician and other medical providers with a written summary of the physical demands of the employee's customary job, and notification of the availability of restricted-duty assignments.

If the physician is uncertain as to the injured worker's functional capacities, and the company requires a more accurate statement of what the employee can do, a Functional Capacities Examination (FCE) will assist all interested parties in the work accommodation process.

Following are some common categories of medical restrictions for which work accommodation are often sought:

- One-handed limitations,
- Force and weight restriction,
- Range of motion restriction,
- Standing/sitting/walking,
- Bending/twisting/stooping/squatting,
- Climbing,
- Limited work hours,

- Wetness restriction, and
- Repetition limitation.

Return-to-Work Objectives

An effort must be made to return the employee to his/her customary job under the supervision of his/her usual supervisor; this accommodation will best use the employee's prior work experience. The transition back to work will be less stressful because the tasks, personnel, and work area will be familiar.
In the event that the employee is unable to perform the customary job with/without job modification, place the employee in a transitional job within his/her department or customary surroundings and under the supervision of his/her usual supervisor. When a transitional job is unavailable within his/her department, place the employee in an alternate department or situation where acceptable transitional work is available.

CONTRACTOR SAFETY POLICY

Good communication is a necessary element of maintaining safety at all sites. Communication among contractor groups must identify safety hazards and prevention practices that each bring to the worksite. Therefore, [Company Name] has implemented the following contractor safety program for our worksites so that on the job injuries are minimized and work practices may be standardized.

Purpose

A written contractor safety policy establishes guidelines to be followed for contractors working at our company. The rules established:

- Provide a safe working environment.
- Govern facility relationships with outside contractors.
- Ensure that contractor employees and our employees are trained to protect themselves from all potential and existing hazards.

The effectiveness of the contractor safety program depends upon the active support and involvement of all employees. This plan is intended to implement a program to ensure that all contractor work practices are carried out safely to minimize the possibility of injury or harm to the contractors' employees or our own employees. It is intended to serve as an additional tool in safeguarding the health and safety of employees.

The contractor safety policy establishes uniform requirements designed to ensure that contractor safety orientation, coordination, and safety administration practices are communicated to and understood by employees.

This document is provided to ensure all corporate safety plans, policies and procedures are communicated to all participating contractors. It also provides an avenue for contractors to communicate their safety plans, policies and procedures to the company. This program aims to prevent personal injuries and illnesses.

Administrative Duties

RORY B. BARTON, RSO, is responsible for developing and maintaining the program. A copy of the plan may be reviewed by employees. It is located in RSO's Office. In addition, FELICIA GONZALEZ is responsible for maintaining any records related to the contractor safety program.

If after reading this program, you find that improvements can be made, please contact RORY B. BARTON. We encourage all suggestions because we are committed to the success of our contractor safety program. We strive for clear understanding, safe behavior, and involvement from every level of our company.

Explanation of Responsibilities

- Company Responsibilities
    - This company has specific safety responsibilities when hiring contractors to come onto the worksite, onto the grounds, or into the buildings or facilities to perform work. Company responsibilities when hiring contractors include the following listed steps. The company will:

        - Take steps to protect contract workers who perform work on or near a potentially hazardous process.
        - Obtain and evaluate information regarding the contract employer's safety performance and programs.
        - Inform the contractor of known potential fire, explosion, or toxic release hazards related to the contractor's work and the process.
        - Explain the applicable provisions of the emergency action plan to the contractor, and require that the contractor disperse that information to all workers who will work at this site.
        - Develop and implement safe work practice procedures to control contract employee entry into hazardous work areas.
        - Maintain a contract employee injury and illness log.
        - Periodically evaluate the contract employer's fulfillment of his or her responsibilities under this policy.
        - Hire and use only contractors who meet Contractor Selection Criteria as listed in the next section of this policy.

- Contractor Responsibilities
    - Contract employees must perform their work safely. Considering that contractors often perform very specialized and potentially hazardous tasks, such as confined space entry activities and non-routine repair activities, their work must be controlled. Contractor responsibilities when accepting contracts with this company include the following listed steps. The contract employer will:
        - Assure that the contract employee is trained in the work practices necessary to safely perform his or her job.
        - Instruct the contract employee in the potential fire, explosion, or toxic release hazards related to his or her job and the process.
        - Assure that the contract employee knows the applicable provisions of the emergency action plan.
        - Document contract employee training.
        - Inform contract employees of and then enforce safety rules of the facility, particularly those implemented to control the hazards of the contracted process during operations.
        - Require that all contractors abide by the same rules to which the contractor is bound by this section.
        - Abide by the site smoking rules. Smoking is prohibited in certain areas.
        - Therefore, permission must be requested before the contractor's employees are allowed to smoke in any area.

Guidelines for Contractor Safety

The following listed steps are the standard procedures for evaluating and choosing contractors who will work on-site at this company.

- Obtain and evaluate information regarding a contractor employer's safety performance and programs when selecting a contractor to perform any type of contract work that might bring them into contact with any hazardous chemical or process on the premises of this company.
- To determine that past safety performance, the group or individual selecting the contractor should consider the contractor's:

    - Employee injury records such as Experience Modification Rate (EMR or MOD) for workers' compensation for the past three years and the contractor's past safety record in performing jobs of a similar nature.
    - OSHA log, which includes the injury and illness rates (number of lost-time accident cases, number of recordable cases, number of restricted workday cases, number of fatalities) for the past three years.
    - Incidence rates for lost-time accidents and recordables for the past three years.
    - Written safety program and training system.
- For contractors whose safety performance on the job is not known, obtain information on injury and illness rates and experience and obtain contractor references.
- Contractor work methods and experience should be evaluated. Ensure that for the job in question the contractor and its employees have the appropriate:
    - Job skills.
    - Equipment.
    - Knowledge, experience, and expertise.
    - Any permits, licenses, certifications, or skilled tradespeople necessary to be capable of performing the work in question.
- The contractor must be willing and able to provide a current certificate of insurance for workers' compensation and general liability coverage with the contracting company.
- Each contractor must be responsible for ensuring that its employees comply with all applicable local, state, and federal safety requirements, as well as with any safety rules and regulations set forth by this company, at which it is performing the contracted work.
- Possible ways to determine past compliance with such safety regulations include:
    - Requesting copies of any citations for violations occurring within the last three years, to determine the frequency and type of safety laws violated.
    - Having all bidders on jobs describe in detail in writing any safety programs in place at the contractor, infractions, accidents, and workers' compensation claims within the last three years. This information will provide the company (company name) with a solid background on that contractor's safety performance and adherence to safety rules and regulations.

Guidelines for Information Exchange

Before contract work begins, this company must:

- Designate a representative to coordinate and communicate all safety and health issues and communicate with the contractor. The designated representative will have a copy of the work document, be thoroughly familiar with its contents, and with the safety and health aspects of the work, or know who to call to obtain this information. The designated representative is responsible for ensuring that all company responsibilities listed below are carried out.
- Provide a copy of the site's written safety policies and procedures to the contractor.
- Inform the contractor of any emergency signals and procedures that may be put into operation in areas where the contractor's employees are working. The contractor should be given the telephone numbers of the nearest hospital, ambulance service, and fire department.
- Conduct an inspection of the proposed worksite area before the prestart-up meeting so any known information about on-site hazards, particularly nonobvious hazards, are documented and thoroughly communicated to the contractor.
- Work directly with the contractor's designated representative, with whom all contacts should be made.

- Conduct a pre-start up meeting (walk through) with the contractor's designated representative and a supervisor from each of the areas of the plant involved in the contractor's work.
- Review all contract requirements related to safety and health with the contractor's designated representative, including, but not limited to, rules and procedures, personal protective equipment (PPE), and special work permits or specialized work procedures. Advise the contractor that the facility safety and health policies must be followed. A copy of the facility's safety plans must be furnished to the contractor.
- Inform contractor's designated representative of the required response to employee alarms and furnish the contractor with a demonstration or explanation of the alarms.
- Communicate thoroughly with the contractor's designated representative any safety and health hazards (particularly nonobvious hazards and hazard communication issues) known to be associated with the work, including those in areas adjacent to the worksite. Tell them it is the contractor's responsibility to convey this information to its employees.
- Review preparation of worksite before contractor begins initial work.
- Identify connect-points for all services, such as steam, gas, water, electricity, etc. Define any limitations of use of such services.
- Ensure that all affected employees at this company receive training on all hazards to which they will be introduced by a contractor.
- During the contract work, this company must:
    - Limit, as necessary, the entry of company employees into contractor work areas.
    - Monitor the contractor's compliance with the contract throughout the duration of the work. When checking contractor work during the project, note any negligent or unlawful act or condition in violation of safety standards or requirements. Any items noted should be brought immediately to the attention of the contractor's designated representative in writing, with a copy of the notice being sent to the contractor's home office concurrently. However, if an unsafe act or a condition is noted that creates an imminent danger of serious injury, immediate steps should be taken with the contractor's designated representative, or in his or her absence, the contractor's employees to stop the unsafe act or condition. Do not allow work that is in violation of a regulation to continue.
    - Document all discussions, including place, time, and names of contractor employees in attendance.
    - Approve the contractor beginning work each day, unless it is routine service or maintenance work or periodic outdoor service or maintenance work.
    - For work for which this company has developed specific and generally applicable procedures, make sure contractors and their contractors follow the same procedures.
    - Do not allow loaning of tools and equipment to outside contractors and their contractors. The contractor is required to provide the necessary tools and equipment.
    - Contact the nearest medical facilities, when available, in emergency situations where severity of the injury dictates immediate attention.
    - Obtain a copy of each OSHA recordable injury report from the contractor and contractor. Investigate and report to the site manager all personal injuries to contractor and contractor employees.
    - Investigate and report any property losses. Maintain a contractor accident report file.
    - After conclusion of the contract work, [RSO Name], RSO completes a post-project assessment of the contractor's safety performance for the facility manager to be used for future reference, with a recommendation on whether or not to re-hire the contractor.

Contractor Guidelines for Information Exchange

Before the contract work begins, the contractor must:

- Designate a representative to coordinate all safety and health issues and communicate with this company's designated representative.
- Provide documentation of any necessary safety training, as described in the Training Requirements section of this policy, to this company's designated representative.
- Sign a confidentiality statement to protect this company's proprietary data.
- Provide information to the designated representative on the safety and health hazards that may arise during the course of the contractor's work at this company and the means necessary to avoid danger from those hazards, including Hazard Communication and all other potential hazards.
- Obtain from this company any safety rules and regulations in effect at the site or potential hazards present that may affect the contractor's work.
- Be certain to be informed of any emergency signals and procedures that may be put into operation in areas where the contractor's employees are working. The contractor should be certain to have the telephone numbers of the nearest hospital, ambulance service, and fire department.
- Advise and train its employees on hazards associated with the work to be performed, including any Hazard Communication or other hazard information provided the contractor by this company's designated representative.
- Keep the designated representative of this company fully informed of any work which may affect the safety of this company's employees or property. This includes complying with the state and federal right-to-know legislation and providing the designated representative appropriate material safety data sheets (MSDSs) or other required information about chemicals the contractor will bring onto the site.
- Know who to call and what to do in emergencies, including where first-aid and medical services are located and train employees on this.
- During the contract work, the contractor will:
    - Have a designated site RSO present and attentive to the work being carried out at all times that the contractors and/or contractors are working at the facility site.
    - Ensure that all contractors are abiding by the terms of this plan.
    - Perform its work while the site is operating, if necessary, and establish necessary safe practices to permit work under operating conditions without endangering this company's associates and property. This includes but is not limited to barricading, sign-posting, and fire watches.
    - Make sure that any equipment, chemicals, or procedures used by the contractor to perform contracted work meet all OSHA requirements.
    - Be held responsible and accountable for any losses or damages suffered by this company and/or its employees as a result of contractor negligence.
    - Provide its employees with medical care and first-aid treatment. Plant first-aid facilities may be used only in case of emergencies.
    - Use only the plant, building and/or site entrance designated, and follow the facility access control practice. The contractor also will ensure that each contractor employee is issued and wears some form of easily seen identification.
    - Provide supervisors and employees who are competent and adequately trained, including training in all health and safety aspects of the work involved in the contract.
    - Provide all tools and equipment for the work, including personal protective equipment (PPE), and ensure the equipment is in proper working order and employees are instructed in its proper use.
    - Maintain good housekeeping in the workplace.
    - Follow specific instructions supplied by this company should emergency alarms be activated.

- Notify the designated representative immediately of any OSHA recordable injury or illness to contractor employees or contractor employees occurring while on the site of this company. Provide a copy of each accident report to the designated representative.
- Receive and use a copy of the Company's written safety policies and procedures.
- After conclusion of the contract work, the contractor is responsible for cleaning all work areas and disposing of any discarded materials in a proper and legal manner.

Training Requirements

- Company Requirements
  - [Company Name] makes sure that affected company employees receive training on all hazards to which they will be introduced by a contractor.
  - In addition, we emphasize to the contractor that it is the contractor's responsibility to convey to its employees any safety information provided by the company to the contractor.
- *Contractor Requirements*
  - The contractor must:
  - Train all workers on all safety and health hazards and provisions applicable to the type of work being done, and provide documentation of such training to this company's designated representative.
  - Train employees on where to obtain first-aid and medical services.

Recordkeeping Requirements

- Company Requirements
  - The designated representative will:
    - Have a copy of the contract on file and be thoroughly familiar with its contents, and with the safety and health aspects of the work.
    - Keep records of all training done with company workers regarding hazards to be caused by the contracting company.
    - Keep copies on file of all forms or statements related to the contract that are required by the company to be filled out before or during contract work.
    - Keep an OSHA recordable injury and illness log for the project, as well as copies of accident reports on all accidents that occur in the course of the project.
    - Keep a daily log regarding prework start-up inspection findings.
    - Keep records of all documentation of any sort given to you by the contractor, including records of training done, MSDSs, accident reports, etc.
    - Keep records of all documentation of any sort you give to the contractor, including list of hazards to train their employees on, MSDSs, etc.
    - Document all discussions, letters, memos, or other communications made to the contractor regarding safety issues, including place, time, names of people involved.
  - The contractor will:
    - Keep records of all training done with contract workers and all documentation provided to the contracting company regarding such training.
    - Keep copies on file of all forms or statements related to the contract that are required by the company to be filled out before or during contract work.
    - Have on file the telephone numbers of the nearest hospital, ambulance service, and fire department.
    - Have copies on-site of all material safety data sheets (MSDSs) or other required information about chemicals relevant to the work on-site.

- Keep an OSHA recordable injury and illness log for the project, as well as copies of accident reports on all accidents that occur in the course of the project.

FIRST AID

Purpose

COMELCO, INC. is dedicated to the protection of its employees from on-the-job injuries and illnesses. However, when injuries or illnesses do occur, we are prepared to see that the needs of the injured or ill are met.

This written First Aid Program is intended to ensure that [Company Name] meets the requirements of applicable OSHA regulations.

Administrative Duties

RORY B. BARTON], RSO, our First Aid Program Administrator, is responsible for establishing and implementing the written First Aid Program. This person has full authority to make necessary decisions to ensure the success of this program. Copies of this written program may be obtained from RSO in his office. If after reading this program, you find that improvements can be made, please contact RORY B. BARTON], RSO. We encourage all suggestions because we are committed to the success of this written program.

Company Policy

In the absence of an infirmary, clinic, or hospital in near proximity to the workplace which is used for the treatment of all injured employees, a person or persons are adequately trained to render first aid and adequate first aid supplies are readily available.

The Company provides a First Aid Kit on the premises. It is there for employee's use in the treatment of minor scratches, burns, headaches, nausea, etc. All employees shall know the location of the First Aid Kit and shall notify their supervisor if they need to use the First Aid Kit.

If an employee has a work related injury or illnesses that requires professional medical assistance, they shall notify their supervisor and let him/her know before they receive this assistance. If they fail to notify their supervisor, they may be ineligible for Worker's Compensation, benefits to pay for doctor's bills, and/or lost wages.

The RSO shall inspect First Aid Kits before the kits are sent out to each area, and on a weekly basis to insure that they are filled and complete

In all cases requiring emergency medical treatment, immediately call, or have a co-worker call, to request emergency medical assistance.

Refer to the "Emergency Medical Treatment" section of this program for a list of [Company Name] personnel who are trained in CPR and First Aid.

First Aid Station

If a fixed establishment employs more than 200 employees at one central location, First-aid stations shall be located as close as practicable to the highest concentration of personnel. First-aid stations are be well-marked and available to personnel during all working hours. One person holding a valid first-aid

certificate shall be responsible for the proper use and maintenance of the first-aid station. First-aid stations are equipped with a minimum of two first-aid kits, the size of which shall be dependent upon the number of personnel normally employed at the work site. One first-aid kit may be a permanent wall-mounted kit, but in all cases the station shall be equipped with at least one portable first-aid kit. When required by the circumstances, the station shall be equipped with two wool blankets and a stretcher in addition to first-aid kits. A roster, denoting the telephone numbers and addresses of doctors, hospitals and ambulance services available to the work site, shall be posted at each first-aid station.

First Aid Kits

First-aid kits and required contents are maintained in a serviceable condition. Unit-type kits have all items in the first-aid kit individually wrapped, sealed, and packaged in comparable sized packages. The commercial or cabinet-type kits do not require all items to be individually wrapped and sealed, but only those which must be kept sterile. Items such as scissors, tweezers, tubes of ointments with caps, or rolls of adhesive tape, need not be individually wrapped, sealed, or disposed of after a single use or application. Individual packaging and sealing shall be required only for those items, which must be kept sterile in a first-aid kit. First-aid kits shall contain at least the following items:

- 10 Package Kit:
  - 1 Pkg. Adhesive bandages, 1" (16 per pkg.)
  - 1 Pkg. Bandage compress, 4" (1 per pkg.)
  - 1 Pkg. Scissors* and tweezers (1 each per pkg.
  - 1 Pkg. Triangular bandage, 40" (1 per pkg.)
  - 1 Pkg. Antiseptic soap or pads (3 per pkg.)
  - 5 Pkgs. of consulting physician's choice

- 16 Package Kit:
  - 1 Pkg. Absorbent gauze, 24" x 72" (1 per pkg.)
  - 1 Pkg. Adhesive bandages, 1" (16 per pkg.)
  - 2 Pkgs. Bandage compresses, 4" (1 per pkg.)
  - 1 Pkg. Eye dressing (1 per pkg.)
  - 1 Pkg. Scissors* and tweezers (1 each per pkg.)
  - 2 Pkgs. Triangular bandages, 40" (1 per pkg.)
  - 1 Pkg. Antiseptic soap or pads (3 per pkg.)
  - 7 Pkgs. of consulting physician's choice

- 24 Package Kit:
  - 2 Pkgs. Absorbent gauze, 24" x 72" (1 per pkg.)
  - 2 Pkgs. Adhesive bandages, 1" (16 per pkg.)
  - 2 Pkgs. Bandage compresses, 4" (1 per pkg.)
  - 1 Pkg. Eye dressing (1 per pkg.)
  - 1 Pkg. Scissors* and tweezers (1 each per pkg.)
  - 6 Pkgs. Triangular bandages (1 per pkg.)
  - 1 Pkg. Antiseptic soap or pads (3 per pkg.)
  - 9 Pkgs. of consulting physician's choice

- 36 Package Kit:
  - 4 Pkgs. Absorbent gauze, 24" x 72" (1 per pkg.)
  - 2 Pkgs. Adhesive bandages, 1" (16 per pkg.)

- 5 Pkgs. Bandage compresses, 4" (1 per pkg.)
- 2 Pkgs. Eye dressing (1 per pkg.)
- 1 Pkg. Scissors* and tweezers (1 each per pkg.)
- 8 Pkgs. Triangular bandages, 40" (1 per pkg.)
- 1 Pkg. Antiseptic soap or pads (3 per pkg.)
- 13 Pkgs. of consulting physician's choice

Scissors shall be capable of cutting 2 layers of 15 oz. cotton cloth or its equivalent. The first-aid kits are maintained at the ten, sixteen, twenty-four or thirty-six package level. Where the eyes or body of any person may be exposed to injurious chemicals and/or materials, suitable facilities for quick drenching or flushing of the eyes and body are provided, within the work area, for immediate emergency use. A poster shall be fastened and maintained either on or in the cover of each first- aid kit and at or near all phones plainly stating, the phone numbers of available doctors, hospitals, and ambulance services within the district of the work site.

Minor First Aid Treatment

First aid kits are stored in the main office building and in each company vehicle. If an employee sustains an injury or are involved in an accident requiring minor first aid treatment, they shall:

- Inform their supervisor.
- Administer first aid treatment to the injury or wound.
- If a first aid kit is used, indicate usage on the accident investigation report.
- Access to a first aid kit is not intended to be a substitute for medical attention.
- Provide details for the completion of the accident investigation report.

Non-Emergency Medical Treatment

For non-emergency work-related injuries requiring professional medical assistance, management must first authorize treatment. If an employee sustains an injury requiring treatment other than first aid, they shall:

- Inform your supervisor.
- Proceed to the posted medical facility. Your supervisor will assist with transportation, if necessary.
- Provide details for the completion of the accident investigation report.

Portable eye wash stations shall be used in the event an employee accidentally spills or splashes injurious chemicals or liquids on their clothing or body. Employees shall notify their supervisor if they use an eye wash station.

Emergency Medical Treatment

If an employee sustains a severe injury requiring emergency treatment:

1. Call for help.
2. Fixed line telephones and mobile or cellular phones are available to contact emergency medical service.

3. Use the emergency telephone numbers and instructions posted next to the telephone in your work area to request assistance and transportation to the local hospital emergency room.
4. Provide details for the completion of the accident investigation report.

Refer to the company’s Emergency Action Plan for a complete list of emergency telephone numbers.

Program Evaluation

By having RORY B. BARTON, RSO thoroughly evaluate and, as necessary, revise our program, we ensure our program's effectiveness and prevent or eliminate any problems. Program evaluation is performed annually.

BLOODBORNE PATHOGENS

Purpose

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

Definitions

- "Blood" means human blood, human blood components, and products made from human blood.

- "Bloodborne Pathogens" means pathogenic microorganisms that are present in human blood and can cause disease in humans. These pathogens include, but are not limited to, hepatitis B virus (HBV), hepatitis C Virus (HCV) and human immunodeficiency virus (HIV).

- "Contaminated" means the presence or the reasonably anticipated presence of blood or other potentially infectious materials on a surface or in or on an item.

- "Contaminated Laundry" means laundry which has been soiled with blood or other potentially infectious materials or may contain sharps.

- "Decontamination" means the use of physical or chemical means to remove, inactivate, or destroy bloodborne pathogens on a surface or item to the point where they are no longer capable of transmitting infectious particles and the surface or item is rendered safe for handling, use, or disposal. Decontamination includes procedures regulated by applicable Health and Safety codes.

- "Engineering Controls" means controls (e.g., sharps disposal containers, needleless systems and sharps with engineered sharps injury protection) that isolate or remove the bloodborne pathogens hazard from the workplace.

- "Engineered Sharps Injury Protection" means either:
    - A physical attribute built into a needle device used for withdrawing body fluids, accessing a vein or artery, or administering medications or other fluids, which effectively reduces the risk of an exposure incident by a mechanism such as barrier creation, blunting, encapsulation, withdrawal or other effective mechanisms; or
    - A physical attribute built into any other type of needle device, or into a non-needle sharp, which effectively reduces the risk of an exposure incident.

- "Exposure Incident" means a specific eye, mouth, other mucous membrane, non-intact skin, or parenteral contact with blood or other potentially infectious materials that results from the performance of an employee's duties.

- "Hand washing Facilities" means a facility providing an adequate supply of running potable water, soap and single use towels or hot air drying machines.

- "HBV" means hepatitis B virus.

- "HCV" means hepatitis C virus.

- "HIV" means human immunodeficiency virus.

- "Licensed Healthcare Professional" is a person whose licensed scope of practice includes an activity which this section requires to be performed by a licensed healthcare professional.

- "Needle" or "Needle Device" means a needle of any type, including, but not limited to, solid and hollow-bore needles.

- "Needleless system" means a device that does not utilize needles for:
    - The withdrawal of body fluids after initial venous or arterial access is established;
    - The administration of medication or fluids; and
    - Any other procedure involving the potential for an exposure incident.

- "NIOSH" means the Director of the National Institute for Occupational Safety and Health, U.S. Department of Health and Human Services, or designated representative.

- "Occupational Exposure" means reasonably anticipated skin, eye, mucous membrane, or parenteral contact with blood or other potentially infectious materials that may result from the performance of an employee's duties.

- "One-Hand Technique" means procedure wherein the needle of a reusable syringe is capped in a sterile manner during use. The technique employed will require the use of only the hand holding the syringe so that the free hand is not exposed to the uncapped needle.

- "OPIM" means other potentially infectious materials.

- "Other Potentially Infectious Materials" means:
    - The following human body fluids: semen, vaginal secretions, cerebrospinal fluid, synovial fluid, pleural fluid, pericardial fluid, peritoneal fluid, amniotic fluid, saliva in dental procedures, any other body fluid that is visibly contaminated with blood such as saliva or vomitus, and all body fluids in situations where it is difficult or impossible to differentiate between body fluids such as emergency response;
    - Any unfixed tissue or organ (other than intact skin) from a human (living or dead); and
    - Any of the following, if known or reasonably likely to contain or be infected with HIV, HBV, or HCV:
        - Cell, tissue, or organ cultures from humans or experimental animals;
        - Blood, organs, or other tissues from experimental animals; or
        - Culture medium or other solutions.

- "Parenteral contact" means piercing mucous membranes or the skin barrier through such events as needlesticks, human bites, cuts, and abrasions.

- "Personal Protective Equipment" is specialized clothing or equipment worn or used by an employee for protection against a hazard. General work clothes (e.g., uniforms, pants, shirts or blouses) not intended to function as protection against a hazard are not considered to be personal protective equipment.

- "Regulated Waste" means any of the following:
    - Liquid or semi-liquid blood or OPIM;
    - Contaminated items that:
        - Contain liquid or semi-liquid blood, or are caked with dried blood or OPIM; and
        - Are capable of releasing these materials when handled or compressed.
        - Contaminated sharps.
        - Pathological and microbiological wastes containing blood or OPIM.
        - Regulated Waste includes "medical waste" regulated by applicable Health and Safety codes.

- "Sharp" means any object used or encountered in the industries covered by subsection (a) that can be reasonably anticipated to penetrate the skin or any other part of the body, and to result in an exposure incident, including, but not limited to, needle devices, scalpels, lancets, broken glass, broken capillary tubes, exposed ends of dental wires and dental knives, drills and burs.

- "Sharps Injury" means any injury caused by a sharp, including, but not limited to, cuts, abrasions, or needlesticks.

- "Sharps Injury Log" means a written or electronic record satisfying the requirements of the OSHA regulation.

- "Source Individual" means any individual, living or dead, whose blood or OPIM may be a source of occupational exposure to the employee. Examples include, but are not limited to, hospital and clinical patients; clients in institutions for the developmentally disabled; trauma victims; clients of drug and alcohol treatment facilities; residents of hospices and nursing homes; human remains; and individuals who donate or sell blood or blood components.

- "Universal Precautions" is an approach to infection control. According to the concept of Universal Precautions, all human blood and certain human body fluids are treated as if known to be infectious for HIV, HBV or HCV, and other bloodborne pathogens.

- "Work Practice Controls" means controls that reduce the likelihood of exposure by defining the manner in which a task is performed (e.g., prohibiting recapping of needles by a two-handed technique and use of patient-handling techniques).

Exposure Control Plan

COMELCO, INC. has established an effective Exposure Control Plan which is designed to eliminate or minimize employee exposure. This Exposure Control Plan is in writing and contains at least the following elements:

- The exposure determination.
- The schedule and method of implementation for each of the applicable subsections:
    - Methods of Compliance,
    - HIV, HBV and HCV Research Laboratories and Production Facilities,
- Hepatitis B Vaccination and Post-exposure Evaluation and Follow-up,
- Communication of Hazards to Employees, and
- Recordkeeping, of this standard;

- An effective procedure for gathering the information required by the Sharps Injury Log.
- An effective procedure for periodic determination of the frequency of use of the types and brands of sharps involved in the exposure incidents documented on the Sharps Injury Log;
    - NOTE: Frequency of use may be approximated by any reasonable and effective method.
- An effective procedure for identifying currently available engineering controls, and selecting such controls, where appropriate, for the procedures performed by employees in their respective work areas or departments;
- An effective procedure for documenting patient safety determinations; and
- An effective procedure for obtaining the active involvement of employees in reviewing and updating the exposure control plan with respect to the procedures performed by employees in their respective work areas or departments.

Employees may request a copy or see the original Exposure Control Plan by asking their Supervisor or Responsible Safety Officer. The Exposure Control Plan is reviewed and updated at least annually and whenever necessary as follows:

- To reflect new or modified tasks and procedures which affect occupational exposure;
- If sharps are used, to reflect progress in implementing the use of needleless systems and sharps with engineered sharps injury protection.
- To include new or revised employee positions with occupational exposure;
- To review and evaluate the exposure incidents which occurred since the previous update; and
- To review and respond to information indicating that the Exposure Control
- Plan is deficient in any area.

The Exposure Control Plan will be made available to the Chief or NIOSH or their respective designee upon request for examination and copying.

Sharps Injury Log

COMELCO, INC. has established and maintains a Sharps Injury Log, which is a record of each exposure incident involving a sharp. Each exposure incident will be recorded on the log within 14 working days of the date the incident is reported to the Company. The information recorded will include the following information, if known or reasonably available:

- Date and time of the exposure incident;
- Type and brand of sharp involved in the exposure incident;
- Job classification of the exposed employee;
- Department or work area where the exposure incident occurred;
- The procedure that the exposed employee was performing at the time of the incident;
- How the incident occurred;
- The body part involved in the exposure incident;
- If the sharp had engineered sharps injury protection, whether the protective mechanism was activated, and whether the injury occurred before the protective mechanism was activated, during activation of the mechanism or after activation of the mechanism, if applicable;
- If the sharp had no engineered sharps injury protection, the injured employee's opinion as to whether and how such a mechanism could have prevented the injury; and
- The employee's opinion about whether any other engineering, administrative or work practice control could have prevented the injury.

Exposure Determination

COMELCO, INC. will conduct an exposure determination for each employee(s) with occupational exposure. This exposure determination will contain the following:

- A list of all job classifications in which all employees in those job classifications have occupational exposure;
- A list of job classifications in which some employees have occupational exposure; and
- A list of all tasks and procedures or groups of closely related task and procedures in which occupational exposure occurs and that are performed by employees in job classifications.

The following job classifications have been determined to have the possibility of an occupational exposure to bloodborne pathogens:

– Category I
  - First Aid Personnel

– Category II
  - Supervisors
  - Maintenance Personnel
  - Custodial

Methods of Compliance

- Universal precautions will be observed to prevent contact with blood or OPIM. Under circumstances in which differentiation between body fluid types is difficult or impossible, all body fluids will be considered potentially infectious materials.
- Engineering and work practice controls will be used to eliminate or minimize employee exposure.
- Engineering controls will be examined and maintained or replaced on a regular schedule to ensure their effectiveness.
- Work practice controls will be evaluated and updated on a regular schedule to ensure their effectiveness.
- All procedures involving blood or OPIM will be performed in such a manner as to minimize splashing, spraying, spattering, and generation of droplets of these substances.
- Needleless systems will be used for:
  - Withdrawal of body fluids after initial venous or arterial access is established;
  - Administration of medications or fluids; and
  - Any other procedure involving the potential for an exposure incident for which a needleless system is available as an alternative to the use of needle devices.
- Needle Devices. If needleless systems are not used, needles with engineered sharps injury protection will be used for:
  - Withdrawal of body fluids;
  - Accessing a vein or artery;
  - Administration of medications or fluids; and
  - Any other procedure involving the potential for an exposure incident for which a needle device with engineered sharps injury protection is available.
- Non-Needle Sharps. If sharps other than needle devices are used, these items will include engineered sharps injury protection.
- Needleless Systems, Needle Devices and Needle Devices will not be used under the following

conditions:

- Market Availability. The engineering control is not required if it is not available in the marketplace.
- Patient Safety. The engineering control is not required if a licensed healthcare professional directly involved in a patient's care determines, in the reasonable exercise of clinical judgment, that use of the engineering control will jeopardize the patient's safety or the success of a medical, dental or nursing procedure involving the patient. The determination will be documented according to OSHA regulations.
- Safety Performance. The engineering control is not required if the Company can demonstrate by means of objective product evaluation criteria that the engineering control is not more effective in preventing exposure incidents than the alternative used by the Company.
- Availability of Safety Performance Information. The engineering control is not required if the Company can demonstrate that reasonably specific and reliable information is not available on the safety performance of the engineering control for the Company's procedures, and that the Company is actively determining by means of objective product evaluation criteria whether use of the engineering control will reduce the risk of exposure incidents occurring in the Company's workplace.

Prohibited Practices

- Shearing or breaking of contaminated needles and other contaminated sharps is prohibited.
- Contaminated sharps will not be bent, recapped, or removed from devices.
  - EXCEPTION: Contaminated sharps may be bent, recapped or removed from devices if the procedure is performed using a mechanical device or a one-handed technique, and the Company can demonstrate that no alternative is feasible or that such action is required by a specific medical or dental procedure.
- Sharps that are contaminated with blood or OPIM will not be stored or processed in a manner that requires employees to reach by hand into the containers where these sharps have been placed.
- Disposable sharps will not be reused.
- Broken glassware which may be contaminated will not be picked up directly with the hands. It will be cleaned up using mechanical means, such as a brush and dust pan, tongs, or forceps.
- The contents of sharps containers will not be accessed unless properly reprocessed or decontaminated.
- Sharps containers will not be opened, emptied, or cleaned manually or in any other manner which would expose employees to the risk of sharps injury.
- Mouth pipetting/suctioning of blood or OPIM is prohibited.
- Eating, drinking, smoking, applying cosmetics or lip balm, and handling contact lenses are prohibited in work areas where there is a reasonable likelihood of occupational exposure.
- Food and drink will not be kept in refrigerators, freezers, shelves, cabinets or on countertops or bench tops where blood or OPIM are present.

Requirements for Handling Contaminated Sharps

- All procedures involving the use of sharps in connection with patient care, such as withdrawing body fluids, accessing a vein or artery, or administering vaccines, medications or fluids, will be performed using effective patient-handling techniques and other methods designed to minimize the risk of a sharps injury.
- Immediately or as soon as possible after use, contaminated sharps will be placed in containers

meeting the requirements of OSHA regulations.
- At all time during the use of sharps, containers for contaminated sharps will be:
    - Easily accessible to personnel and located as close as is feasible to the immediate area where sharps are used or can be reasonably anticipated to be found (e.g., laundries);
    - Maintained upright throughout use, where feasible; and
    - Replaced as necessary to avoid overfilling.

Sharps Containers for Contaminated Sharps

- All sharps containers for contaminated sharps will be:
    - Rigid;
    - Puncture resistant;
    - Leak proof on the sides and bottom;
    - Portable, if portability is necessary to ensure easy access by the user as required by OSHA regulations; and
    - Labeled in accordance with OSHA regulations.
- If discarded sharps are not to be reused, the sharps container will also be closeable and sealable so that when sealed, the container is leak resistant and incapable of being reopened without great difficulty.

Regulated Waste

- Handling, storage, treatment and disposal of all regulated waste will be in accordance with Health and Safety Codes and other applicable regulations of the United States, the State, and political subdivisions of the State.
- When any container of contaminated sharps is moved from the area of use for the purpose of disposal, the container will be:
    - Closed immediately prior to removal or replacement to prevent spillage or protrusion of contents during handling, storage, transport, or shipping; and
    - Placed in a secondary container if leakage is possible. The second container will be:
        - Closable;
        - Constructed to contain all contents and prevent leakage during handling, storage, transport, or shipping; and
        - Labeled according to OSHA regulations.
- Regulated waste not consisting of sharps will be disposed of in containers which are:
    - Closable;
    - Constructed to contain all contents;
    - Labeled and color-coded in accordance with OSHA regulations; and
    - Closed prior to removal to prevent spillage or protrusion of contents during handling, storage, transport, or shipping.
- If outside contamination of a container of regulated waste occurs, it will be placed in a second container. The second container will be:
    - Closable;
    - Constructed to contain all contents and prevent leakage of fluids during handling, storage, transport or shipping;
    - Labeled and color-coded in accordance with OSHA regulations; and
    - Closed prior to removal to prevent spillage or protrusion of contents during handling, storage, transport, or shipping.

Handling Specimens of Blood or OPIM

- Specimens of blood or OPIM will be placed in a container which prevents leakage during collection, handling, processing, storage, transport, or shipping.
- The container for storage, transport, or shipping will be labeled or color-coded according to OSHA regulations, and closed prior to being stored, transported, or shipped. When a facility utilizes Universal Precautions in the handling of all specimens, the labeling/color-coding of specimens is not necessary provided containers are recognizable as containing specimens. This exemption only applies while such specimens/containers remain within the facility. Labeling or color-coding in accordance with OSHA regulations is required when such specimens/containers leave the facility.
- If outside contamination of the primary container occurs, the primary container will be placed within a second container which prevents leakage during collection, handling, processing, storage, transport, or shipping and is labeled or color-coded according to the requirements of this standard.
- If the specimen could puncture the primary container, the primary container will be placed within a secondary container which is puncture-resistant in addition to the above characteristics.

Servicing or Shipping Contaminated Equipment

Equipment which may become contaminated with blood or OPIM will be examined prior to servicing or shipping and will be decontaminated as necessary, unless [Company Name] can demonstrate that decontamination of such equipment or portions of such equipment is not feasible.

- A readily observable label in accordance with OSHA regulations will be attached to the equipment stating which portions remain contaminated.
- Information concerning all remaining contamination will be conveyed to all affected employees, the servicing representative, and/or the manufacturer, as appropriate, prior to handling, servicing, or shipping so that appropriate precautions will be taken.

Cleaning and Decontamination of the Worksite

- The Company will ensure that the worksite is maintained in a clean and sanitary condition.
- The Company will determine and implement an appropriate written schedule for cleaning and decontamination of the worksite.
- The method of cleaning or decontamination used will be effective and will be appropriate for the:
    - Location within the facility;
    - Type of surface or equipment to be treated;
    - Type of soil or contamination present; and
    - Tasks or procedures being performed in the area.
- All equipment and environmental and work surfaces will be cleaned and decontaminated after contact with blood or OPIM no later than at the end of the shift. Cleaning and decontamination of equipment and work surfaces is required more often as specified below.
- Contaminated Work Surfaces. Contaminated work surfaces will be cleaned and decontaminated immediately or as soon as feasible when:
    - Surfaces become overtly contaminated;
    - There is a spill of blood or OPIM;
    - Procedures are completed; and
    - At the end of the work shift if the surface may have become contaminated since the last cleaning.
- Receptacles. All bins, pails, cans, and similar receptacles intended for reuse which have a

reasonable likelihood for becoming contaminated with blood or OPIM will be inspected and decontaminated on a regularly scheduled basis and cleaned and decontaminated immediately or as soon as feasible upon visible contamination.

- Protective Coverings. Protective coverings, such as plastic wrap, aluminum foil, or imperviously-backed absorbent paper used to cover equipment and environmental surfaces, will be removed and replaced as soon as feasible when they become overtly contaminated or at the end of the workshift if they may have become contaminated during the shift.

Hygiene

- The Company will provide hand washing facilities which are readily accessible to employees.
- When provision of hand washing facilities is not feasible, the Company will provide either an appropriate antiseptic hand cleanser in conjunction with clean cloth/paper towels or antiseptic towelettes. When antiseptic hand cleansers or towelettes are used, hands will be washed with soap and running water as soon as feasible.
- Companies will ensure that employees wash their hands immediately or as soon as feasible after removal of gloves or other personal protective equipment.
- Companies will ensure that employees wash hands and any other skin with soap and water, or flush mucous membranes with water immediately or as soon as feasible following contact of such body areas with blood or OPIM.

Laundry

- Contaminated laundry will be handled as little as possible with a minimum of agitation.
- Contaminated laundry will be bagged or containerized at the location where it was used and will not be sorted or rinsed in the location of use.
- Contaminated laundry will be placed and transported in bags or containers labeled or color-coded in accordance with OSHA regulations.
- When a facility utilizes Universal Precautions in the handling of all soiled laundry, alternative labeling or color-coding is sufficient if it permits all employees to recognize the containers as requiring compliance with Universal Precautions.
- Whenever contaminated laundry is wet and presents a reasonable likelihood of soaking through or leakage from the bag or container, the laundry will be placed and transported in bags or containers which prevent soak-through and/or leakage of fluids to the exterior.
- The Company will ensure that employees who have contact with contaminated laundry wear protective gloves and other appropriate personal protective equipment.
- When a facility ships contaminated laundry off-site to a second facility which does not utilize Universal Precautions in the handling of all laundry, the facility generating the contaminated laundry must place such laundry in bags or containers which are labeled or color-coded in accordance with OSHA regulations.

Personal Protective Equipment

Where occupational exposure remains after institution of engineering and work practice controls, the Company will provide, at no cost to the employee, appropriate personal protective equipment such as, but not limited to, gloves, gowns, laboratory coats, face shields or masks and eye protection, and mouthpieces, resuscitation bags, pocket masks, or other ventilation devices. Personal protective equipment will be considered "appropriate" only if it does not permit blood or OPIM to pass through to or

reach the employee's work clothes, street clothes, undergarments, skin, eyes, mouth, or other mucous membranes under normal conditions of use and for the duration of time which the protective equipment will be used.

The Company will ensure that the employee uses appropriate personal protective equipment unless the Company shows that the employee temporarily and briefly declined to use personal protective equipment when, under rare and extraordinary circumstances, it was the employee's professional judgment that in the specific instance its use would have prevented the delivery of health care or public safety services or would have posed an increased hazard to the safety of the worker or co-worker. When the employee makes this judgment, the circumstances will be investigated and documented in order to determine whether changes can be instituted to prevent such occurrences in the future. The Company will encourage employees to report all such instances without fear of reprisal.

The Company will ensure that appropriate personal protective equipment in the appropriate sizes is readily accessible at the worksite or is issued to employees. Hypoallergenic gloves, glove liners, powder less gloves, or other similar alternatives will be readily accessible to those employees who are allergic to the gloves normally provided.

The Company will clean, launder, and dispose of personal protective equipment required by applicable OSHA regulations, at no cost to the employee. The Company will repair or replace personal protective equipment as needed to maintain its effectiveness, at no cost to the employee. If a garment(s) is penetrated by blood OPIM, the garment(s) will be removed immediately or as soon as feasible. All personal protective equipment will be removed prior to leaving the work area. When personal protective equipment is removed it will be placed in an appropriately designated area or container for storage, washing, decontamination or disposal.

Gloves

Gloves will be worn when it can be reasonably anticipated that the employee:

- May have hand contact with blood, OPIM, mucous membranes, and non-intact skin;
- When performing vascular access procedures except as specified in OSHA regulations; and
- When handling or touching contaminated items or surfaces. These requirements are in addition to the provisions of applicable OSHA regulations.

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

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

If a Company in a volunteer blood donation center judges that routine gloving for all phlebotomies is not necessary then the Company will:

- Periodically reevaluate this policy;
- Make gloves available to all employees who wish to use them for phlebotomy;
- Not discourage the use of gloves for phlebotomy; and
- Require that gloves be used for phlebotomy in the following circumstances:

- When the employee has cuts, scratches, or other breaks in his or her skin;
- When the employee judges that hand contamination with blood may occur, for example, when performing phlebotomy on an uncooperative source individual; and
- When the employee is receiving training in phlebotomy.

Masks, Eye Protection, Face Shields, & Respirators

Masks in combination with eye protection devices, such as goggles or glasses with solid side shields, or chin-length face shields, will be worn whenever splashes, spray, spatter, or droplets of blood OPIM may be generated and eye, nose, or mouth contamination can be reasonably anticipated. These requirements are in addition to the provisions of other OSHA regulations. Where respiratory protection is used, the provisions of applicable OSHA regulations are required as applicable.

NOTE: Surgical masks are not respirators.

Gowns, Aprons, & Other Protective Body Clothing

Appropriate protective clothing such as, but not limited to, gowns, aprons, lab coats, clinic jackets, or similar outer garments will be worn in occupational exposure situations. The type and characteristics will depend upon the task and degree of exposure anticipated. These requirements are in addition to other applicable OSHA regulations.

Surgical caps or hoods and/or shoe covers or boots will be worn in instances when gross contamination can reasonably be anticipated (e.g., autopsies, orthopaedic surgery). These requirements are in addition to the provisions of other applicable OSHA regulations..

Hepatitis B Vaccination & Post-exposure Evaluation and Follow-up

The Company will make available the hepatitis B vaccine and vaccination series to all employees who have occupational exposure, and post-exposure evaluation and follow-up to all employees who have had an exposure incident. When an Company is also acting as the evaluating health care professional, the Company will advise an employee following an exposure incident that the employee may refuse to consent to post-exposure evaluation and follow-up from the Company-healthcare professional. When consent is refused, the Company will make immediately available to exposed employees a confidential medical evaluation and follow-up from a healthcare professional other than the exposed employee's Company.

EXCEPTION: Designated first aid providers who have occupational exposure are not required to be offered pre-exposure hepatitis B vaccine if the following conditions exist:

- The primary job assignment of such designated first aid providers is not the rendering of first aid.
  - Any first aid rendered by such persons is rendered only as a collateral duty responding solely to injuries resulting from workplace incidents, generally at the location where the incident occurred.
  - This exception does not apply to designated first aid providers who render assistance on a regular basis, for example, at a first aid station, clinic, dispensary, or other location where injured employees routinely go for such assistance, and emergency or public safety personnel who are expected to render first aid in the course of their work.
- The Company's Exposure Control Plan will specifically address the provision of hepatitis B vaccine to all unvaccinated first aid providers who have rendered assistance in any situation

involving the presence of blood OPIM (regardless of whether an actual exposure incident, as defined by the OSHA regulation) and the provision of appropriate post-exposure evaluation, prophylaxis and follow-ups for those employees who experience an exposure incident as defined by the OSHA regulation, including:

- Provisions for a reporting procedure that ensures that all first aid incidents involving the presence of blood or OPIM, will be reported to the Company before the end of work shift during which the first aid incident occurred.
  - The report must include the names of all first aid providers who rendered assistance, regardless of whether personal protective equipment was used and must describe the first aid incident, including time and date.
    - The description must include a determination of whether or not, in addition to the presence of blood or OPIM, an exposure incident, as defined in the OSHA regulation.
    - This determination is necessary in order to ensure that the proper post-exposure evaluation, prophylaxis and follow-up procedures required OSHA are made available immediately if there has been an exposure incident, as defined in the OSHA regulation.
  - The report will be recorded on a list of such first aid incidents. It will be readily available to all employees and will be provided to the Chief upon request.
- Provision for the bloodborne pathogens training program, required by OSHA for designated first aiders to include the specifics of the reporting requirements the OSHA regulation and of this exception.
- Provision for the full hepatitis B vaccination series to be made available as soon as possible, but in no event later than 24 hours, to all unvaccinated first aid providers who have rendered assistance in any situation involving the presence of blood or OPIM regardless of whether or not a specific exposure incident, as defined by subsection (b), has occurred.

- The Company must implement a procedure to ensure that all of the provisions of the OSHA regulation are complied with if pre-exposure hepatitis B vaccine is not to be offered to employees meeting the conditions of the OSHA regulation.
- The Company will ensure that all medical evaluations and procedures including the hepatitis B vaccine and vaccination series and post-exposure evaluation and follow-up, including prophylaxis, are:
  - Made available at no cost to the employee;
  - Made available to the employee at a reasonable time and place;
  - Performed by or under the supervision of a licensed physician or by or under the supervision of another licensed healthcare professional; and
  - Provided according to recommendations of the U.S. Public Health Service current at the time these evaluations and procedures take place, except as specified by the OSHA regulation.
- The Company will ensure that all laboratory tests are conducted by an accredited laboratory at no cost to the employee.

Hepatitis B Vaccination

Hepatitis B vaccination will be made available after the employee has received the training required by OSHA and within 10 working days of initial assignment to all employees who have occupational exposure unless the employee has previously received the complete hepatitis B vaccination series, antibody testing has revealed that the employee is immune, or the vaccine is contraindicated for medical

reasons. The Company will not make participation in a prescreening program a prerequisite for receiving hepatitis B vaccination. If the employee initially declines hepatitis B vaccination but at a later date while still covered under the standard decides to accept the vaccination, the Company will make available hepatitis B vaccination at that time. The Company will assure that employees who decline to accept hepatitis B vaccination offered by the Company sign the declination statement. If a routine booster dose(s) of hepatitis B vaccine is recommended by the U.S. Public Health Service at a future date, such booster dose(s) will be made available in accordance with the OSHA regulation.

Post-Exposure Evaluation & Follow-Up

Following a report of an exposure incident, the Company will make immediately available to the exposed employee a confidential medical evaluation and follow-up, including at least the following elements:

- The Company will document the route(s) of exposure, and the circumstances under which the exposure incident occurred;
- The Company will identify and document the source individual, unless the Company can establish that identification is infeasible or prohibited by state or local law;
    - The source individual's blood will be tested as soon as feasible and after consent is obtained in order to determine HBV, HCV and HIV infectivity. If consent is not obtained, the Company will establish that legally required consent cannot be obtained. When the source individual's consent is not required by law, the source individual's blood, if available, will be tested and the results documented.
    - When the source individual is already known to be infected with HBV, HCV or HIV, testing for the source individual's known HBV, HCV or HIV status need not be repeated.
    - Results of the source individual's testing will be made available to the exposed employee, and the employee will be informed of applicable laws and regulations concerning disclosure of the identity and infectious status of the source individual.
- The Company will provide for collection and testing of the employee's blood for HBV, HCV and HIV serological status;
    - The exposed employee's blood will be collected as soon as feasible and tested after consent is obtained.
    - If the employee consents to baseline blood collection, but does not give consent at that time for HIV serologic testing, the sample will be preserved for at least 90 days. If, within 90 days of the exposure incident, the employee elects to have the baseline sample tested, such testing will be done as soon as feasible.
    - Additional collection and testing will be made available as recommended by the U.S. Public Health Service.
- The Company will provide for post-exposure prophylaxis, when medically indicated, as recommended by the U.S. Public Health Service;
- The Company will provide for counseling and evaluation of reported illnesses.

Information Provided to the Healthcare Professional

The Company will ensure that the healthcare professional responsible for the employee's hepatitis B vaccination is provided a copy of this regulation. The Company will ensure that the healthcare professional evaluating an employee after an exposure incident is provided the following information:

- A copy of this regulation;
- A description of the exposed employee's duties as they relate to the exposure incident;
- Documentation of the route(s) of exposure and circumstances under which exposure occurred, as required by the OSHA regulation;

- Results of the source individual's blood testing, if available; and
- All medical records relevant to the appropriate treatment of the employee including vaccination status which are the Company's responsibility to maintain, as required by the OSHA regulation.

Healthcare Professional's Written Opinion

The Company will obtain and provide the employee with a copy of the evaluating healthcare professional's written opinion within 15 days of the completion of the evaluation. The healthcare professional's written opinion for hepatitis B vaccination will be limited to whether hepatitis B vaccination is indicated for an employee, and if the employee has received such vaccination.
The healthcare professional's written opinion for post-exposure evaluation and follow-up will be limited to the following information:

- That the employee has been informed of the results of the evaluation; and
- That the employee has been told about any medical conditions resulting from exposure to blood or OPIM which require further evaluation or treatment.

All other findings or diagnoses will remain confidential and will not be included in the written report.

Medical Recordkeeping

Medical records required by this standard will be maintained in accordance with the OSHA regulation.

Communication of Hazards to Employees

Labels

Warning labels will be affixed to containers of regulated waste, refrigerators and freezers containing blood or OPIM, and other containers used to store, transport or ship blood or OPIM, except as provided in the OSHA regulation. NOTE: Other labeling provisions of other Health and Safety Code Sections may be applicable.

Labels required by this section will include any of the following legends as required by OSHA:

BIOHAZARD
Or in the case of regulated waste the legend:
BIOHAZARDOUS WASTE or SHARPS WASTE
as described in applicable Health and Safety Code Sections.

These labels will be fluorescent orange or orange-red or predominantly so, with lettering and symbols in a contrasting color. Labels required by the OSHA regulation will either be an integral part of the container or will be affixed as close as feasible to the container by string, wire, adhesive, or other method that prevents their loss or unintentional removal.

Red bags or red containers may be substituted for labels except for sharp containers or regulated waste red bags. Bags used to contain regulated waste will be color-coded red and will be labeled in accordance with the OSHA regulation. Labels on red bags or red containers do not need to be color-coded in accordance with the OSHA regulation. Containers of blood, blood components, or blood products that are labeled as to their contents and have been released for transfusion or other clinical use are exempted from the labeling requirements of the applicable OSHA sections. Individual containers of blood or OPIM that are

placed in a labeled container during storage, transport, shipment or disposal are exempted from the labeling requirement. Labels required for contaminated equipment will be in accordance with this subsection and will also state which portions of the equipment remain contaminated. Regulated waste that has been decontaminated need not be labeled or color-coded.

Signs

The Company will post signs at the entrance to work areas specified in the OSHA regulation, HIV, HBV and HCV Research Laboratory and Production Facilities, which will bear the following legend:

BIOHAZARD

_____ (Name of the Infectious Agent)
_____ (Special requirements for entering the area)
_____ (Name, telephone number of the laboratory director or other responsible person.)

These signs will be fluorescent orange-red or predominantly so, with lettering and symbols in a contrasting color, and meet the requirements of the applicable OSHA section.

Information and Training

Companies will ensure that all employees with occupational exposure participate in a training program which must be provided at no cost to the employee and during working hours. Training will be provided as follows:

- At the time of initial assignment to tasks where occupational exposure may take place;
- At least annually thereafter.

For employees who have received training on bloodborne pathogens in the year preceding the effective date of the standard, only training with respect to the provisions of the standard which were not included need be provided. Annual training for all employees will be provided within one year of their previous training. Companies will provide additional training when changes such as:

- introduction of new engineering, administrative or work practice controls,
- modification of tasks or procedures or
- institution of new tasks or procedures affect the employee's occupational exposure. The additional training may be limited to addressing the new exposures created.

Material appropriate in content and vocabulary to educational level, literacy, and language of employees will be used. The training program will contain at a minimum the following elements:

- Copy and Explanation of Standard. An accessible copy of the regulatory text of this standard and an explanation of its contents;
- Epidemiology and Symptoms. A general explanation of the epidemiology and symptoms of bloodborne diseases;
- Modes of Transmission. An explanation of the modes of transmission of bloodborne pathogens;
- Company's Exposure Control Plans. An explanation of the Company's exposure control plan and the means by which the employee can obtain a copy of the written plan;
- Risk Identification. An explanation of the appropriate methods for recognizing tasks and other activities that may involve exposure to blood and OPIM;
- Method of Compliance. An explanation of the use and limitations of methods that will prevent or

reduce exposure including appropriate engineering controls, administrative or work practice controls and personal protective equipment;
- Decontamination and Disposal. Information on the types, proper use, location, removal, handling, decontamination and disposal of personal protective equipment;
- Personal Protective Equipment. An explanation of the basis for selection of personal protective equipment;
- Hepatitis B Vaccination. Information on the hepatitis B vaccine, including information on its efficacy, safety, method of administration, the benefits of being vaccinated, and that the vaccine and vaccination will be offered free of charge;
- Emergency. Information on the appropriate actions to take and persons to contact in an emergency involving blood or OPIM;
- Exposure Incident. An explanation of the procedure to follow if an exposure incident occurs, including the method of reporting the incident the medical follow-up that will be made available and the procedure for recording the incident on the Sharps Injury Log
- Post-Exposure Evaluation and Follow-up. Information on the post-exposure evaluation and follow-up that the Company is required to provide for the employee following an exposure incident;
- Signs and Labels. An explanation of the signs and labels and/or color coding required by the OSHA regulation; and
- Interactive Questions and Answers. An opportunity for interactive questions and answers with the person conducting the training session.

NOTE: Additional training is required for employees of HIV, HBV and HCV Research Laboratories and Production Facilities.

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

Recordkeeping

Medical Records.

The Company will establish and maintain an accurate record for each employee with occupational exposure, in accordance with the OSHA regulation. This record will include:
- The name and social security number of the employee;
- A copy of the employee's hepatitis B vaccination status including the dates of all the hepatitis B vaccinations and any medical records relative to the employee's ability to receive vaccination as required by the OSHA regulation;
- A copy of all results of examinations, medical testing, and follow-up procedures as required by the OSHA regulation;
- The Company's copy of the healthcare professional's written opinion as required by the OSHA regulation; and
- A copy of the information provided to the healthcare professional as required by the OSHA regulation.

The Company will ensure that employee medical records required by subsection (h) (1) are:
- Kept confidential; and
- Not disclosed or reported without the employee's express written consent to any person within or outside the workplace except as required by this section or as may be required by law.

The Company will maintain the records required by the OSHA regulation for at least the duration of employment plus 30 years in accordance the applicable OSHA section.

Training Records

Training records will include the following information:

- The dates of the training sessions;
- The contents or a summary of the training sessions;
- The names and qualifications of persons conducting the training; and
- The names and job titles of all persons attending the training sessions.

Training records will be maintained for 3 years from the date on which the training occurred.

Sharps Injury Log

The Sharps Injury Log will be maintained 5 years from the date the exposure incident occurred.

Availability

The Company will ensure that all records required to be maintained by this section will be made available upon request to the Chief and NIOSH for examination and copying. Employee training records required by this subsection will be provided upon request for examination and copying to employees, to employee representatives, to the Chief, and to NIOSH.

Employee medical records required by this subsection will be provided upon request for examination and copying to the subject employee, to anyone having written consent of the subject employee, to the Chief, and to NIOSH in accordance with the OSHA regulation.

The Sharps Injury Log required by the OSHA regulation will be provided upon request for examination and copying to employees, to employee representatives, to the Chief, to the Department of Health Services, and to NIOSH.

Transfer of Records

The Company will comply with the requirements involving transfer of records set forth in the applicable OSHA section. If the Company ceases to do business and there is no successor Company to receive and retain the records for the prescribed period, the Company will notify NIOSH, at least three months prior to their disposal and transmit them to the NIOSH, if required by the NIOSH to do so, within that three month period.

Attachments

- Vaccination Declination Form
- Employee Consent to Hepatitis B Vaccine
- Exposure Incident Investigation Form
- Post-Exposure Evaluation & Follow-Up Checklist

PERSONAL PROTECTIVE EQUIPMENT

Purpose

The COMELCO, INC. provides all Employees with required PPE to suit the task and known hazards. This Chapter covers the requirements for Personal Protective Equipment with the exception of PPE used for hearing conservation and respiratory protection or PPE required for hazardous material response to spills or releases, which if applicable are covered under separate programs.

The RORY B. BARTON, RSO is the program coordinator, acting as the representative of the plant manager, who has overall responsibility for the program. The RSO will designate appropriate plant supervisors to assist in training employees and monitoring their use of PPE. This written plan is kept in the RSO's office. Then he/she will review and update the program as necessary. Copies of this program may be obtained from the RSO's office.

We at COMELCO, INC. believe it is our obligation to provide a hazard free environment to our employees. Any employee encountering hazardous conditions must be protected against the potential hazards. The purpose of protective clothing and equipment (PPE) is to shield or isolate individuals from chemical, physical, biological, or other hazards that may be present in the workplace.

Establishing an overall written PPE program detailing how employees use PPE makes it easier to ensure that they use PPE properly in the workplace and document our PPE efforts in the event of an OSHA inspection. COMELCO, INC.’s PPE program covers:

- Purpose
- Hazard assessment
- PPE selection
- Employee training
- Cleaning and maintenance of PPE
- PPE specific information

If after reading this program, you find that improvements can be made, please contact the RSO, [RSO Name]. We encourage all suggestions because we are committed to the success of our Personal Protective Equipment Program. We strive for clear understanding, safe behavior, and involvement in the program from every level of the company.

General Policy

Engineering controls shall be the primary methods used to eliminate or minimize hazard exposure in the workplace. When such controls are not practical or applicable, personal protective equipment shall be employed to reduce or eliminate personnel exposure to hazards. Personal protective equipment (PPE) will be provided, used, and maintained when it has been determined that its use is required and that such use will lessen the likelihood of occupational injuries and/or illnesses.

Responsibilities

The RSO (RORY B. BARTON) will be responsible for assessing the hazards and exposures that may require the use of PPE, determining the type of equipment to be provided, and purchasing the equipment. Input from managers, supervisors, and employees will be obtained and considered in selecting appropriate equipment.

Managers/supervisors will be responsible for training employees in the use and proper care of PPE, ensuring that all employees are assigned appropriate PPE, and ensuring that PPE is worn by employees when and where it is required.

Employees are responsible for following all provisions of this program and related procedures. They are expected to wear PPE when and where it is required.

Hazard Assessment

The Company will perform an assessment of the workplace to determine if hazards are present, or likely to be present, which necessitate the use of personal protective equipment (PPE). This assessment will consist of a survey of the workplace to identify sources of hazards to workers. Consideration will be given to hazards such as impact, penetration, laceration, compression (dropping heavy objects on foot, roll-over, etc.), chemical exposures, harmful dust, heat, light (optical) radiation, electrical hazards, noise, etc. Where such hazards are present, or likely to be present, the Company will:

- Select, and have each affected Employee use, the proper PPE
- Communicate selection decisions to each affected Employee
- Select PPE that properly fits each affected employee.
- Train employees in the use and care of PPE as described elsewhere in this program

The Company will verify that the workplace hazard assessment has been performed by conducting a written certification. This certification will be dated and signed by the RSO or person conducting the assessment. Whenever there is a change in process or in the workplace that might introduce or change an exposure or hazard, the company will perform an assessment to determine if there needs to be additional PPE or a change in the PPE provided. These supplemental hazard assessments will also be documented, signed and dated by the person performing the assessment. The Company will review and update the workplace hazard assessment on an annual basis.

Sources

During the walk-through survey the RSO should observe:

- sources of motion; i.e., machinery or processes where any movement of tools, machine elements or particles could exist, or movement of personnel that could result in collision with stationary objects;
- sources of high temperatures that could result in burns, eye injury or ignition of protective equipment, etc.;
- types of chemical exposures;
- sources of harmful dust;
- sources of light radiation, i.e., welding, brazing, cutting, furnaces, heat treating, high intensity lights, etc.;

- sources of falling objects or potential for dropping objects;
- sources of sharp objects which might pierce the feet or cut the hands;
- sources of rolling or pinching objects which could crush the feet;
- layout of workplace and location of co-workers; and
- any electrical hazards. In addition, injury/accident data should be reviewed to help identify problem areas.

Organize Data

Following the walk-through survey, it is necessary to organize the data and information for use in the assessment of hazards. The objective is to prepare for an analysis of the hazards in the environment to enable proper selection of protective equipment.

Analyze Data

Having gathered and organized data on a workplace, an estimate of the potential for injuries should be made. Each of the basic hazards should be reviewed and a determination made as to the type, level of risk, and seriousness of potential injury from each of the hazards found in the area. The possibility of exposure to several hazards simultaneously should be considered.

Controlling Hazards

PPE devices alone should not be relied on to provide protection against hazards, but should be used in conjunction with guards, engineering controls, and sound manufacturing practices.

Assessment and Selection

It is necessary to consider certain general guidelines for assessing the foot, head, eye and face, and hand hazard situations that exist in an occupational or educational operation or process, and to match the protective devices to the particular hazard. It should be the responsibility of the RSO to exercise common sense and appropriate expertise to accomplish these tasks. Personal protective equipment will meet the following standards:

- Eye & Face Protection devices - ANSI Z87.1-1989 "American National Standard Practice for Occupational and Educational Eye and Face Protection"
- Head Protection devices - ANSI Z89.1-1986 "American National Standard for Personal Protection - Protective Headwear for Industrial Workers"
- Foot Protection devices - ANSI Z41-1991 "American National Standard for Personal Protection - Protective Footwear"
- Hand Protection - No national standard available - Selection will be based on task performed, conditions present, duration of use, and the hazards and potential hazards identified.
- Electrical Protective equipment - No national standard - Equipment will be tested electrically before first use and every 6 months thereafter or upon indication that insulating value is suspect.

Selection Guidelines

The general procedure for selection of protective equipment is to:

- Become familiar with the potential hazards and the type of protective equipment that is available, and what it can do; i.e., splash protection, impact protection, etc.;
- compare the hazards associated with the environment; i.e., impact velocities, masses, projectile shape, radiation intensities, with the capabilities of the available protective equipment;
- select the protective equipment which ensures a level of protection greater than the minimum required to protect employees from the hazards; and
- fit the user with the protective device and give instructions on care and use of the PPE. It is very important that end users be made aware of all warning labels for and limitations of their PPE.

Fitting the Device

Careful consideration must be given to comfort and fit. PPE that fits poorly will not afford the necessary protection. Continued wearing of the device is more likely if it fits the wearer comfortably. Protective devices are generally available in a variety of sizes. Care should be taken to ensure that the right size is selected.

Devices with Adjustable Features

Adjustments should be made on an individual basis for a comfortable fit that will maintain the protective device in the proper position. Particular care should be taken in fitting devices for eye protection against dust and chemical splash to ensure that the devices are sealed to the face. In addition, proper fitting of helmets is important to ensure that it will not fall off during work operations. In some cases a chin strap may be necessary to keep the helmet on an employee's head. (Chin straps should break at a reasonably low force, however, so as to prevent a strangulation hazard). Where manufacturer's instructions are available, they should be followed carefully.

Reassessment of Hazards

It is the responsibility of the RSO to reassess the workplace hazard situation as necessary, by identifying and evaluating new equipment and processes, reviewing accident records, and reevaluating the suitability of previously selected PPE.

- Defective & Damaged Equipment
- Defective or damaged personal protective equipment shall not be used.
- Selection of Personal Protective Equipment (PPE)

Personal protective equipment (PPE) will be selected on the basis of the hazards to which the workers' are exposed or potentially exposed. All selections will be made by with input from managers, supervisors and workers.

Training

Each employee who is required to use PPE will be trained in the following:

- Why PPE is necessary
- When PPE is necessary
- What PPE is necessary and any alternative choices of equipment
- How to properly don, doff, adjust, and wear PPE
- The proper care, maintenance, storage, useful life, and disposal of PPE

The training will include an opportunity for employees to handle the PPE and demonstrate that they understand the training and have the ability to use the PPE properly. Training will be provided by the manager or supervisor of the affected employees. Training will be documented in writing with the documentation including the names of each employee trained, the date(s) of the training, and the subject matter covered.

Employees must demonstrate an understanding of the training and the ability to use the PPE properly before they are allowed to perform work requiring the use of the equipment.

Employees are prohibited from performing work without donning appropriate PPE to protect them from the hazards they will encounter in the course of that work.

If the RSO has reason to believe an employee does not have the understanding or skill required, the employer must retrain. Since an employee's supervisor is in the best position to observe any problems with PPE use by individual employees, the RSO will seek this person's input when making this determination. Circumstances where retraining may be required include changes in the workplace or changes in the types of PPE to be used, which would render previous training obsolete. Also, inadequacies in an affected employee's knowledge or use of the assigned PPE, which indicates that the employee has not retained the necessary understanding or skills, would require retraining.

The RSO certifies in writing that the employee has received and understands the PPE training.

Because failure to comply with company policy concerning PPE can result in OSHA citations and fines as well as employee injury, an employee who does not comply with this program will be disciplined for noncompliance according to the company’s Disciplinary Action Program.

Cleaning and Maintenance

It is important that all PPE be kept clean and properly maintained by the employee to whom it is assigned. Cleaning is particularly important for eye and face protection where dirty or fogged lenses could impair vision. PPE is to be inspected, cleaned, and maintained by employees at regular intervals as part of their normal job duties so that the PPE provides the requisite protection. Supervisors are responsible for ensuring compliance with cleaning responsibilities by employees.

If PPE is for general use, the RSO has responsibility for cleaning and maintenance. If a piece of PPE is in need of repair or replacement it is the responsibility of the employee to bring it to the immediate attention of his or her supervisor or the RSO. It is against work rules to use PPE that is in disrepair or not able to perform its intended function. Contaminated PPE that cannot be decontaminated is disposed of in a manner that protects employees from exposure to hazards.

Personal Protective Equipment

Engineering controls shall be the primary methods used to eliminate or minimize hazard exposure in the workplace. When such controls are not practical or applicable, personal protective equipment shall be employed to reduce or eliminate personnel exposure to hazards.

Personal protective equipment (PPE) will be provided, used, and maintained when it has been determined that its use is required and that such use will lessen the likelihood of occupational injuries and/or illnesses.

The RSO will recommend and/or provide necessary protective equipment where there is a reasonable probability that the use of the equipment will prevent or reduce the severity of injuries or illness.

Equipment Specifications and Requirements

All personal protective clothing and equipment will be of safe design and construction for the work to be performed. Only those items of protective clothing and equipment that meet National Institute of Occupational Safety and Health (NIOSH) or American National Standards Institute (ANSI) standards will be procured or accepted for use.

Eye and Face Protection

The majority of occupational eye injuries can be prevented by the use of suitable/approved safety spectacles, goggles, or shields. Approved eye and face protection shall be worn when there is a reasonable possibility of personal injury. Supervisors, with assistance from the RSO, determine jobs and work areas that require eye protection and the type of eye and face protection that will be used.

Typical hazards that can cause eye and face injury are:
- Splashes of toxic or corrosive chemicals, hot liquids, and molten metals;
- Flying objects, such as chips of wood, metal, and stone dust;
- Fumes, gases, and mists of toxic or corrosive chemicals; and
- Aerosols of biological substances.

Prevention of eye accidents requires that all persons who may be in eye hazard areas wear protective eyewear. This includes employees, visitors, researchers, contractors, or others passing through an identified eye hazardous area. To provide protection for these personnel, activities shall procure a sufficient quantity of heavy duty goggles and/or plastic eye protectors which afford the maximum amount of protection possible.

If these personnel wear personal glasses, they shall be provided with a suitable eye protector to wear over them.

Eye and face protectors procured, issued to, and used by Company personnel must conform to the following design and standards:
- Provide adequate protection against the particular hazards for which they are designed
- Fit properly and offer the least possible resistance to movement and cause minimal discomfort while in use.
- Be durable.
- Be easily cleaned or disinfected for or by the wearer.
- Be clearly marked to identify the manufacturer.

Persons who require corrective lenses for normal vision, and who are required to wear eye protection, must wear goggles or spectacles of one of the following types:

- Spectacles with protective lenses which provide optical correction.
- Goggles that can be worn over spectacles without disturbing the adjustment of the spectacles.
- Goggles that incorporate corrective lenses mounted behind the protective lenses.

Description and Use of Eye/Face Protectors

Safety Spectacles. Protective eye glasses are made with safety frames, tempered glass or plastic lenses, temples and side shields which provide eye protection from moderate impact and particles encountered in job tasks such as carpentry, woodworking, grinding, scaling, etc.

Single Lens Goggles. Vinyl framed goggles of soft pliable body design provide adequate eye protection from many hazards. These goggles are available with clear or tinted lenses, perforated, port vented, or non-vented frames.

Single lens goggles provide similar protection to spectacles and may be worn in combination with spectacles or corrective lenses to insure protection along with proper vision.

Welders/Chippers Goggles. These goggles are available in rigid and soft frames to accommodate single or two eye piece lenses.

Welder's goggles provide protection from sparking, scaling or splashing metals and harmful light rays. Lenses are impact resistant and are available in graduated shades of filtration.

Chippers/grinders goggles provide eye protection from flying particles. The dual protective eye cups house impact resistant clear lenses with individual cover plates.

Face Shields. These normally consist of an adjustable headgear and face shield of tinted/transparent acetate or polycarbonate materials, or wire screen. Face shields are available in various sizes, tensile strength, impact/heat resistance and light ray filtering capacity. Face shields will be used in operations when the entire face needs protection and should be worn to protect eyes and face against flying particles, metal sparks, and chemical/ biological splash.

Welding Shields. These shield assemblies consist of vulcanized fiber or glass fiber body, a ratchet/button type adjustable headgear or cap attachment and a filter and cover plate holder. These shields will be provided to protect workers' eyes and face from infrared or radiant light burns, flying sparks, metal spatter and slag chips encountered during welding, brazing, soldering, resistance welding, bare or shielded electric arc welding and oxyacetylene welding and cutting operations.

The RSO maintains a supply of various eye and face protective devices. Personnel requiring prescription safety glasses must contact the RSO.

Emergency Eyewash Facilities

Emergency eyewash facilities meeting the requirements of ANSI Z358.1-1981 shall be provided in all areas where the eyes of any employee may be exposed to corrosive materials. All such emergency facilities shall be located where they are easily accessible to those in need.

Hearing Protection

Hearing protection devices are the first line of defense against noise in environments where engineering controls have not reduced employee exposure to safe levels. Hearing protective devices can prevent significant hearing loss, but only if they are used properly.

The most popular hearing protection devices are earplugs which are inserted into the ear canal to provide a seal against the canal walls. Earmuffs enclose the entire external ears inside rigid cups. The inside of the muff cup is lined with acoustic foam and the perimeter of the cup is fitted with a cushion that seals against the head around the ear by the force of the headband.

Preformed earplugs and earmuffs should be washed periodically and stored in a clean area, and foam inserts should be discarded after each use. It is important for you to wash hands before handling pre-formed earplugs and foam inserts to prevent contaminants from being placed in the ear which may increase your risk of developing infections.

Also, check hearing protective devices for signs of wear or deterioration.

Replace devices periodically.

The RSO and Site Supervisor maintain a supply of a variety of disposable foam ear inserts and earmuffs.

Respiratory Protection

Respiratory hazards may occur through exposure to harmful dusts, fogs, fumes, mists, gases, smoke, sprays, and vapors. The best means of protecting personnel is through the use of engineering controls, e.g., local exhaust ventilation. Only when engineering controls are not practical or applicable shall respiratory protective equipment be employed to reduce personnel exposure.

The RSO is responsible for the Respiratory Protection Program at the Company. Workers requiring the use of respirators must first obtain medical approval from the Company physician to wear a respirator before a respirator can be issued. The RSO conducts respirator training and fit tests and is responsible for determining the proper type of respiratory protection required for the particular hazard.

Adherence to the following guidelines will help ensure the proper and safe use of respiratory equipment:

- Wear only the respirator you have been instructed to use. For example, do not wear a self-containing breathing apparatus if you have been assigned and fitted for a half-mask respirator.
- Wear the correct respirator for the particular hazard. For example, some situations, such as chemical spills or other emergencies, may require a higher level of protection than your respirator can handle. Also, the proper cartridge must be matched to the hazard (a cartridge designed for dusts and mists will not provide protection from vapors)
- Check the respirator for a good fit before each use. Positive and negative fit checks should be conducted.
- Check the respirator for deterioration before and after use. Do not use a defective respirator.
- Recognize indications that cartridges and canisters are at their end of service. If in doubt, change cartridges/ canisters before using respirator.
- Practice moving and working while wearing the respirator so that you can get used to it.
- Clean the respirator after each use, thoroughly dry it and place the cleaned respirator in a sealable plastic bag.
- Store respirators carefully in a protected location away from excessive heat, light, and chemicals.

Head Protection

Hats and caps have been designed and manufactured to provide workers protection from impact, heat, electrical and fire hazards. These protectors consist of the shell and the suspension combined as a protective system. Safety hats and caps will be of nonconductive, fire and water resistant materials. Bump caps or skull guards are constructed of lightweight materials and are designed to provide minimal protection against hazards when working in congested areas.

Head protection will be furnished to, and used by, all employees and contractors engaged in construction and other miscellaneous work in head-hazard areas. Head protection will also be required to be worn by engineers, inspectors, and visitors at construction sites. Bump caps/skull guards will be issued to and worn for protection against scalp lacerations from contact with sharp objects. They will not be worn as substitutes for safety caps/hats because they do not afford protection from high impact forces or penetration by falling objects.

Hand Protection

Skin contact is a potential source of exposure to toxic materials; it is important that the proper steps be taken to prevent such contact. Gloves should be selected on the basis of the material being handled, the particular hazard involved, and their suitability for the operation being conducted. One type of glove will not work in all situations.

Most accidents involving hands and arms can be classified under four main hazard categories: chemicals, abrasions, cutting, and heat. There are gloves available that can protect workers from any of these individual hazards or any combination thereof.

The first consideration in the selection of gloves for use against chemicals is to determine, if possible, the exact nature of the substances to be encountered. Read instructions and warnings on chemical container labels and MSDSs before working with any chemical. Recommended glove types are often listed in the section for personal protective equipment.

All glove materials are eventually permeated by chemicals. However, they can be used safely for limited time periods if specific use and glove characteristics (i.e., thickness and permeation rate and time) are known. The RSO can assist is determining the specific type of glove material that should be worn for a particular chemical.

Gloves should be replaced periodically, depending on frequency of use and permeability to the substance(s) handled. Gloves overtly contaminated should be rinsed and then carefully removed after use. Gloves should also be worn whenever it is necessary to handle rough or sharp-edged objects, and very hot or very cold materials. The type of glove materials to be used (in these situations) include leather, welder’s gloves, aluminum-backed gloves, and other types of insulated glove materials.

Careful attention must be given to protecting your hands when working with tools and machinery. Power tools and machinery must have guards installed or incorporated into their design that prevent the hands from contacting the point of operation, power train, or other moving parts. To protect the hands from injury due to contact with moving parts, it is important to:

- Ensure that guards are always in place and used.
- Always lock out machines or tools and disconnect the power before making repairs.

- Treat a machine without a guard as inoperative; and
- Do not wear gloves around moving machinery, such as drill presses, mills, lathes, and grinders.

The RSO can help the supervisor identify appropriate glove selections for their operations. The RSO also maintains a selection of gloves for various tasks.

Safety Shoes

Safety shoes shall be worn in the shops, warehouses, maintenance, cagewash, glassware, and other areas as determined by the Health and Safety Branch. Recommendations for safety footwear shall be approved by the Health and Safety Branch. All safety footwear shall comply with American National Standards Institute (ANSI) Standard ANSI Z41-1991, "American National Standard for Personal Protection - Protective Footwear. Protective footwear purchased before July 5, 1994, shall comply with ANSI Standard Z41.1-1967.

Permanent full time employees will be initially issued two pairs of safety shoes of approved type. Shoes will be replaced or repaired as necessary based on supervisory approval. Other than permanent employees will be issued one pair of safety shoes with replacement as necessary based on supervisory approval.

Supervisor - Reviews employees work situation and recommends safety footwear as appropriate in accordance with established Institute policy. Requests safety shoes from the RSO for new employees or as indicated for replacement. Ensures that all employees under his supervision use and maintain safety footwear. Makes determination on the need for replacement or repair of safety shoes.

Employee - Wears Institute provided or approved safety shoes in all areas requiring safety footwear as determined by the supervisor and the RSO.

RSO - Consults with supervisors concerning safety shoe requirements and approves issuance of all safety shoes. Arranges for local purchase of all safety shoes. Makes arrangements for necessary repairs.

Supervisors must review employee's work situation in consultation with the RSO to decide the need for safety footwear and appropriate types. The "Request for Safety Shoes" must be completed, reviewed and signed by the supervisor and approved by the RSO.

Any employee desiring to replace his/her safety footwear must complete the "Request for Safety Shoes" and have it signed by their supervisor.

If an employee is unable to find appropriate safety footwear at the designated vendors, he or she should check with the RSO for alternate procedures. Alternate procedures involve employees purchasing safety footwear with their own funds and being reimbursed.

Employees who want to have their footwear repaired, should be encouraged to do so. Some footwear is designed to be repaired, and some is not. Repairs would include such items as new soles and heels. The Company will reimburse employees for repairs.

Hearing Personal Protective Equipment

Hearing protective devices (ear plugs, muffs, etc.) shall be the permanent solution only when engineering or administrative controls are considered to be infeasible or cost prohibitive. Hearing protective devices

are defined as any device that can be worn to reduce the level of sound entering the ear. Hearing protective devices shall be worn by all personnel when they must enter or work in an area where the operations generate noise levels of:

- Greater than 85 dBA sound levels, or
115 dB peak sound pressure level or greater

Types of Hearing Protective Devices Hearing protective devices include the following:

- A device designed to provide an air-tight seal with the ear canal. There are three types of insert earplugs
    1. premolded
    2. formable
    3. custom earplugs.
- Premolded earplugs are pliable devices of fixed proportions. Two standard styles, single flange and triple flange, come in various sizes, and will fit most people. Personnel responsible for fitting and dispensing earplugs will train users on proper insertion, wear, and care. While premolded earplugs are reusable, they may deteriorate and should be replaced periodically.
- Formable earplugs come in just one size. Some are made of material which, after being compressed and inserted, expands to form a seal in the ear canal. When properly inserted, they provide noise attenuation values that are similar to those from correctly fitted premolded earplugs. Individual units may procure approved formable earplugs. Supervisors must instruct users in the proper use of these earplugs as part of the annual education program. Each earplug must be held in place while it expands enough to remain firmly seated. A set of earplugs with a cord attached is available. These earplugs may be washed and therefore are reusable, but will have to be replaced after two or three weeks or when they no longer form an airtight seal when properly inserted.
- Custom Molded Earplugs: A small percentage of the population cannot be fitted with standard premolded or formable earplugs. Custom earplugs can be made to fit the exact size and shape of the individual’s ear canal. Individuals needing custom earplugs will be referred to an audiologist.
- Earmuffs are devices worn around the ear to reduce the level of noise that reaches the ear. Their effectiveness depends on an air tight seal between the cushion and the head.

Employees will be given the opportunity to select hearing protective devices from a variety of suitable ones provided by the RSO. In all cases the chosen hearing protectors shall have a Noise Reduction Ratio (NRR) high enough to reduce the noise at the ear drum to 85 dBA or lower.

The issuance of hearing protective devices is handled through the RSO. The RSO will issue and fit the initial hearing protective devices (foam inserts, disposables). Instruction on the proper use and care of earplugs and earmuffs will be provided whenever HPDs (hearing protective devices) are dispensed. Personnel requiring earmuffs in addition to earplugs will be informed of this requirement and educated on the importance of using proper hearing protection. The RSO will dispense ear muffs when necessary and will maintain a supply of disposable earplugs.

Always use and maintain HPDs as originally intended and in accordance with instructions provided.

Earmuff performance may be degraded by anything that compromises the cushion-to-circumaural flesh seal. This includes other pieces of personal protective equipment such as eyewear, masks, faceshields, and helmets.

Reusable earplugs, such as the triple flange or formable devices should be washed in lukewarm water using hand soap, rinsed in clean water, and dried thoroughly before use. Wet or damp earplugs should not be placed in their containers. Cleaning should be done as needed.

Earmuff cushions should be kept clean. The plastic or foam cushions may be cleaned in the same way as earplugs, but the inside of the muff should not get wet. When not n use, ear muffs should be placed in open air to allow moisture that may have been absorbed into the cups to evaporate.

The maximum of sound attenuation one gets when wearing hearing protection devices is limited by human body and bone conduction mechanisms. Even though a particular device may provide outstanding values of noise attenuation the actual noise reductions may be less because of the noise surrounding the head and body bypasses the hearing protector and is transmitted through tissue and bone pathways to the inner ear.

The term “double hearing protection” is misleading. The attenuation provided from any combination earplug and earmuff is not equal to the sum of their individual attenuation values.

Appendices

Hazard Assessment Form

FALL PROTECTION PLAN

OSHA currently regulates fall protection for construction under Part 1926, Subpart M. The standards for regulating fall protection systems and procedures are intended to prevent employees from falling off, onto or through working levels and to protect employees from falling objects. Fall protection requirements under the OSHA Construction regulations require considerable planning and preparation.

Written fall protection procedures establish guidelines to be followed whenever an employee works above dangerous equipment on ramps or runways, or at heights with fall protection at the job site. The regulations:

- Are designed to provide a safe working environment, and
- Govern use of fall protection procedures and equipment.

Written procedures for fall protection establish uniform requirements for fall protection training, operation, and practices. The effectiveness of the written fall protection procedures depends on the active support and involvement of all employees who perform the jobs requiring it. This plan is intended to document procedures that ensure all work requiring fall protection is carried out safely.

Purpose

COMELCO, INC. is dedicated to the protection of its employees from on-the-job injuries. All employees of [Company Name] have the responsibility to work safely on the job. The purpose of this plan is to:

- Supplement our standard safety policy by providing safety standards specifically designed to cover fall protection on this job.

- Ensure that each employee is trained and made aware of the safety provisions which are to be implemented by this plan prior to the start of erection.

This program informs interested persons, including employees, that [Company Name] is complying with OSHA's Fall Protection requirements, (29 CFR 1926.500 to.503).

This program applies to all employees who might be exposed to fall hazards, except when designated employees are inspecting, investigating, or assessing workplace conditions before the actual start of construction work or after all construction work has been completed.

All fall protection systems selected for each application will be installed before an employee is allowed to go to work in an area that necessitates the protection. [RSO Name], RSO, is the program coordinator/manager and is responsible for its implementation. Copies of the written program may be obtained from the RSO's Office. Certain employees are authorized to inspect, investigate, or assess workplace conditions before construction work begins or after all construction work has been completed. These employees are exempt from the fall protection rule during the performance of these duties. They are the RSO and Site Supervisors.

These authorized employees determine if all walking/working surfaces on which our employees work have the strength and structural integrity to support the employees. Our employees will not be allowed to work on these surfaces until they have the requisite strength and structural integrity.

All employees, or their designated representatives, can obtain further information about this written program, and/or the fall protection standard from RORY B. BARTON, RSO.

Our Duty to Provide Fall Protection

To prevent falls COMELCO, INC. has a duty to anticipate the need to work at heights and to plan our work activities accordingly. Careful planning and preparation lay the necessary groundwork for an accident-free jobsite.

Worksite Assessment and Fall Protection System Selection

Because some sites may require fall protection while others may not, this is the written General Plan applying to all applicable worksites.

This fall protection plan is intended to anticipate the particular fall hazards to which our employees may be exposed. Specifically, we:

- Inspect the area to determine what hazards exist or may arise during the work.
- Identify the hazards and select the appropriate measures and equipment.
- Give specific and appropriate instructions to workers to prevent exposure to unsafe conditions.
- Ensure employees follow procedures given and understand training provided.
- Apprise ourselves of the steps our specialty subcontractors have taken to meet their fall protection requirements.

Providing fall protection requires an assessment of each fall situation at a given jobsite. Our criteria for selecting a given fall protection system follow those established at 29 CFR 1926.502, fall protection systems criteria and practices. Each employee exposed to these situations must be trained as outlined later in this plan.

Unprotected Sides and Edges

Our employees must be protected when they are exposed to falls from unprotected sides and edges of walking/working surfaces (horizontal and vertical surfaces) which are 6 feet or more above lower levels.

We know that OSHA has determined that there is no "safe" distance from an unprotected side or edge that would render fall protection unnecessary.

We have chosen the following fall protection for unprotected sides and edges at our worksites:

- guardrails
- safety nets
- personal fall arrest

We maintain the fall protection system(s) chosen until all work has been completed or until the permanent elements of the structure which will eliminate the exposure to falling hazards are in place.

Leading Edge Work

Leading edges are defined as the edge of a floor, roof, or formwork that changes location as additional floor, roof, or formwork sections are placed, formed, or constructed. If work stops on a leading edge it will be considered to be an "unprotected side or edge" and will be covered by the section of this plan on unprotected sides and edges.

We presume that it is feasible and will not create a greater hazard to implement at least one of the conventional fall protection systems for our leading edge work.

Employees who are not constructing the leading edge, but who are on walking/working surfaces where leading edges are under construction, are also protected from a fall by guardrails, safety nets, personal fall arrest.

Hoist Areas

In all situations where equipment and material hoisting operations take place, we protect our employees from fall hazards. When we are involved in hoisting operations we will use the following fall protection systems at these specific locations:
guardrails or personal fall arrest systems

When operations require the materials to be lifted by crane to a landing zone (and do not require an employee to lean through the access opening or out over the edge to receive or guide materials), we can select either personal fall arrest equipment or a guardrail system.

When guardrails (or chains or gates) are removed to facilitate hoisting operations, and one of our employees must lean through the access opening or out over the edge to receive or guide materials they will be protected by a personal fall arrest system.

Holes

COMELCO, INC. protects employees from:

- Tripping in or stepping into or through holes (including skylights).
- Objects falling through holes (including skylights).

We use the following fall protection system to protect our employees working on walking/working surfaces with holes where they can fall 6 feet or more to a lower surface:

- covers
- guardrails
- personal fall arrest systems

At this worksite employees can trip or step into or through a hole (including skylights) or an object could fall through a hole and strike a worker. In these instances we use covers to prevent accidents.

We understand that OSHA does not intend that a guardrail be erected around holes while employees are working at the hole, passing materials, and so on. Therefore, if the cover is removed while work is in progress, guardrails are not required because they would interfere with the performance of work. When the work has been completed, we will be required to either replace the cover or erect guardrails around the hole.

Formwork and Reinforcing Steel

A jobsite may require formwork or reinforcing steel work 6 feet or more above lower levels. We could be involved in work where different systems fit different applications. Therefore, we have chosen the following fall protection systems that might be used to protect our employees:

- positioning device
- safety net
- personal fall arrest system

Ramps, Runways, and Other Walkways

We equip all ramps, runways, and other walkways with guardrails when employees are subject to falling 6 feet or more to lower levels.

Excavations

Some jobsites may have excavation edges that will not be readily seen (i. e., concealed from view by plant growth, etc.). When it is necessary, and when the excavation is 6 feet or more deep we protect these excavations by:

- guardrail systems
- fences
- barricades

In addition, walls, pits, shafts, and similar excavations 6 feet or more deep will be guarded to prevent employees from falling into them by:

- guardrail systems
- fences
- barricades
- covers

Dangerous Equipment

[Company Name] is committed to protecting our employees from falling onto dangerous equipment. When this equipment is less than 6 feet below an employee, but because of form or function is dangerous, the employee is protected by guardrails or an equipment guard

When this equipment is more than 6 feet below an employee, but because of form or function is dangerous, the employee is protected by guardrails, personal fall arrest system, or a safety net.

Roofing Work on Low-Slope Roofs

Each of our employees engaged in roofing activities on low-slope roofs (4 in 12 or less, vertical to horizontal pitch) with unprotected sides and edges six-feet or more above lower levels will be protected from falling by:

- guardrails
- personal fall arrest system
- safety net
- a combination of warning line and guardrail
- a combination of warning line and safety net
- a combination of warning line and personal fall arrest

We follow the guidelines in Appendix A of Subpart M to determine how to correctly measure a roof that is not a rectangle.

Steep Roofs

We will protect our workers on roofs with slopes greater than 4 in 12 vertical to horizontal pitch (steep roofs) from falling when the roof has unprotected sides or edges more than 6 feet above lower levels by the use of:

- guardrail with toeboards
- personal fall arrest system, or
- safety net
- Wall Openings

Employees who are exposed to the hazard of falling out or through wall openings (including those with chutes attached) where the outside bottom edge of the wall opening is 6 feet or more above lower levels and the inside bottom edge of the wall opening is less than 39 inches above the walking/working surface must be protected from falling. We protect our employees from falls out or through wall openings by the following methods:

- guardrails
- safety nets, or
- personal fall arrest systems

Walking/Working Surfaces Not Otherwise Addressed

We realize there will be situations that are not covered by our written safety plan, for which we have the duty to provide fall protection. All employees exposed to falls of 6 feet or more to lower levels must be protected by a guardrail system, safety net system, or personal fall arrest system except where specified otherwise in Part 1926.

We have audited all of our worksites for fall protection hazards that are not covered elsewhere in this plan. We have taken the following measures to address these hazards:

- guardrails
- personal fall arrest system, or
- safety net

Protection from Falling Objects

When employees are exposed to falling objects, we ensure they wear hard hats and also implement one of the following measures:

- Erect toeboards, screens, or guardrail systems to prevent objects from falling from higher levels.

- Erect a canopy structure and keep potential fall objects far enough from the edge of the higher level so that those objects would not go over the edge if they were accidentally moved.

- Barricade the area to which objects could fall, prohibit employees from entering the barricaded area, and keep objects that may fall far enough away from the edge of a higher level so that those objects would not go over the edge if they were accidentally moved.

- Cover or guard holes 6 feet or more above a lower level.

Controlled Access Zones

A Controlled access zone is a work area designated and clearly marked in which certain types of work (such as overhand bricklaying) may take place without the use of conventional fall protection systems, guardrail, personal arrest or safety net to protect the employees working in the zone.

Controlled access zones are used to keep out workers other than those authorized to enter work areas from which guardrails have been removed. Where there are no guardrails, masons are the only workers allowed in controlled access zones.

Controlled access zones, when created to limit entrance to areas where leading edge work and other operations are taking place, must be defined by a control line or by any other means that restrict access. Control lines shall consist of ropes, wires, tapes or equivalent materials, and supporting stanchions, and each must be:

- Flagged or otherwise clearly marked at not more than 6-foot (1.8 meters) intervals with high-visibility material.

- Rigged and supported in such a way that the lowest point (including sag) is not less than 39 inches (1 meter) from the walking/working surface and the highest point is not more than 45 inches (1.3 meters)--nor more than 50 inches (1.3 meters) when overhand bricklaying operations are being performed from the walking/working surface.

- Strong enough to sustain stress of not less than 200 pounds (0.88 kilonewtons). Control lines shall extend along the entire length of the unprotected or leading edge and shall be approximately parallel to the unprotected or leading edge Control lines also must be connected on each side to a guardrail system or wall. When control lines are used, they shall be erected

not less than 6 feet (1.8 meters) nor more than 25 feet (7.6 meters) from the unprotected or leading edge, except when precast concrete members are being erected. In the latter case, the control line is to be erected not less than 6 feet (1.8 meters) nor more than 60 feet (18 meters) or half the length of the member being erected, whichever is less, from the leading edge.

- Controlled access zones when used to determine access to areas where overhand bricklaying and related work are taking place are to be defined by a control line erected not less than 10 feet (3 meters) nor more than 15 feet (4.6 meters) from the working edge. Additional control lines must be erected at each end to enclose the controlled access zone. Only employees engaged in overhand bricklaying or related work are permitted in the controlled access zones.

  On floors and roofs where guardrail systems are not in place prior to the beginning of overhand bricklaying operations, controlled access zones will be enlarged as necessary to enclose all points of access, material handling areas, and storage areas.

  On floors and roofs where guardrail systems are in place, but need to be removed to allow overhand bricklaying work or leading edge work to take place, only that portion of the guardrail necessary to accomplish that day's work shall be removed.

Safety Monitoring Systems

When no other alternative fall protection has been implemented, the Company shall implement a safety monitoring system. [Company Name] Solutions will appoint the site Safety Coordinator of Supervisor to monitor the safety of workers and the Company shall ensure that the safety monitor:

- Is competent in the recognition of fall hazards.
- Is capable of warning workers of fall hazard dangers and in detecting unsafe work practices.
- Is operating on the same walking/working surfaces of the workers and can see them.
- Is close enough to work operations to communicate orally with workers and has no other duties to distract from the monitoring function.
- Not have other assignments that would take monitors attention from the monitoring function.

Mechanical equipment shall not be used or stored in areas where safety monitoring systems are being used to monitor employees engaged in roofing operations on low-sloped roofs.

No worker, other than one engaged in roofing work (on low-sloped roofs) or one covered by a fall protection plan, shall be allowed in an area where an employee is being protected by a safety monitoring system.

All workers in a controlled access zone shall be instructed to promptly comply with fall hazard warnings issued by safety monitors.

Selection & Use Guidelines for Fall Protection Equipment

Providing fall protection requires an assessment of each fall situation at a given jobsite. Our criteria for selecting a given fall protection system follow those established at 29 CFR 1926.502, fall protection systems criteria and practices. Each employee exposed to these situations must be trained as outlined later in this plan. When purchasing equipment and raw materials for use in fall protection systems applicable ANSI & ASTM requirements will be met.

General Worksite Policy

If any one of the conditions described in the Workplace Assessment is not met for the area or piece of equipment posing a potential fall hazard, then do not perform that work until the condition is met. If you cannot remedy the condition immediately, notify a supervisor of the problem and utilize a different piece of equipment or work in a different area, according to the situation.

If the situation calls for use of fall protection devices such as harnesses or lanyards because the fall hazard cannot be reduced to a safe level, then the employee must don such protective equipment before beginning the work and use it as intended throughout the duration of the work.

Only employees trained in such work are expected to perform it.

All places of employment, job sites shall be kept clean and orderly and in a sanitary condition.

All walking/working surfaces must be kept in a clean and, so far as possible, dry condition. Where wet processes are used, drainage shall be maintained, and false floors, platforms, mats, or other dry standing places should be provided where practicable.

All places of employment, job sites shall be kept clean and orderly and in a sanitary condition

Training Program

Under no circumstances shall employees work in areas where they might be exposed to fall hazards, do work requiring fall protection devices, or use fall protection devices until they have successfully completed this company's fall protection training program.

The training program includes classroom instruction and operational training on recognition and avoidance of unsafe conditions and the regulations applicable to their work environment for each specific fall hazard the employee may encounter.

The training program is conducted by the RSO, a "competent person" qualified in each aspect of the program, and must cover the following areas:

- The nature of fall hazards in the work area.

- Selection and use of personal fall arrest systems, including 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.

- The correct procedures for erecting, maintaining, disassembling, and inspecting the fall protection systems to be used.

- The use and operation of guardrail systems, personal fall arrest systems, safety net systems, warning line systems, safety monitoring systems, controlled access zones, and other protection to be used.

- The role of each employee in the safety monitoring system when this is used.

- The limitations on the use of mechanical equipment during the performance of roofing work on low-sloped roofs.

- The correct procedures for the handling and storage of equipment and materials and the erection of overhead protection.

- The role of employees in fall protection plans.

- The standards contained in Subpart M of the construction regulations.

The RSO will identify all current and new employees who require training and schedule the classroom instruction for those employees. Training on the above components will occur both in the classroom and on the job site, as appropriate. Classroom training will cover written policy/procedures on fall protection and include a training video on the subject. Job site instruction will include demonstration of and practice in wearing fall protection equipment and any instruction necessary for a specific job.

RORY B. BARTON], RSO has overall responsibility for the safety of employees and will verify compliance with 1926.503(a), training program, for each employee required to be trained.

The RSO and/or Site Supervisor has the responsibility of determining when an employee who has already been trained, does not have the understanding and skill required by the training program (1926.503(a)).

A written certificate of training is required which must include:

- The name or other identity of the employee trained.
- The date(s) of training.
- The signature of the competent person who conducted the training or the signature of the employer.

Retraining is required when an employee cannot demonstrate the ability to recognize the hazards of falling and the procedures to be followed to minimize fall hazards.

Enforcement

Constant awareness of and respect for fall hazards, and compliance with all safety rules are considered conditions of employment. The jobsite superintendent, as well as individuals in the Safety and Personnel Department, reserve the right to issue disciplinary warnings to employees, up to and including termination, for failure to follow the guidelines of this program.

Incident Investigation

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

In the event that an employee falls or there is some other related, serious incident (e.g., a near miss) occurs, this plan will be reviewed to determine if additional practices, procedures, or training need to be implemented to prevent similar types of falls or incidents from occurring.

Changes to Plan

Any changes to the plan will be approved by the RSO. This plan is reviewed by a qualified person as the job progresses to determine if additional practices, procedures or training needs to be implemented by the competent person to improve or provide additional fall protection. Workers are notified and trained, if necessary, in the new procedures. A copy of this plan and all approved changes is maintained at the jobsite.

FIRE PREVENTION & SAFETY

Purpose

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

This FPP is in place at this company to control and reduce the possibility of fire and to specify the type of equipment to use in case of fire. This plan addresses the following issues:

- Major workplace fire hazards and their proper handling and storage procedures.
- Potential ignition sources for fires and their control procedures.
- The type of fire protection equipment or systems which can control a fire involving them.
- Regular job titles of personnel responsible for maintenance of equipment and systems installed to prevent or control ignition of fires and for control of fuel source hazards.

Under this plan, our employees will be informed of the plan's purpose, preferred means of reporting fires and other emergencies, types of evacuations to be used in various emergency situations, and the alarm system. The plan is closely tied to our emergency action plan where procedures are described for emergency escape procedures and route assignments, procedures to account for all employees after emergency evacuation has been completed, rescue and medical duties for those employees who perform them. Please see the emergency action plan for this information.

RORY B. BARTON , RSO, is the program coordinator, who has overall responsibility for the plan. The written program is kept in RSO's office. He/she will review and update the plan as necessary. Copies of this plan may be obtained in the RSO's office.

The FPP communicates to employees, policies and procedures to follow when fires erupt. This written plan is available, upon request, to employees, their designated representatives, and any OSHA officials who ask to see it.

If after reading this program, you find that improvements can be made, please contact RORY BARTON , RSO. We encourage all suggestions because we are committed to the success of our emergency action plan. We strive for clear understanding, safe behavior, and involvement in the program from every level of the company.

RSO Responsibilities

Here at COMELCO, INC. , the RSO is responsible for the following activities. He/she must:

- Develop a written fire prevention plan for regular and after-hours work conditions.
- Immediately notify the local fire department fire or police departments, and the building owner/superintendent in the event of a fire affecting the office.
- Integrate the fire prevention plan with the existing general emergency plan covering the building occupied.
- Distribute procedures for reporting a fire, the location of fire exits, and evacuation routes to each employee.

- Conduct drills to acquaint the employees with fire procedures, and to judge their effectiveness.
- Satisfy all local fire codes and regulations as specified.
- Train designated employees in the use of fire extinguishers and the application of medical first-aid techniques.
- Keep key management personnel home telephone numbers in a safe place in the office for immediate use in the event of a fire. Distribute a copy of the list to key persons to be retained in their homes for use in communicating a fire occurring during non-work hours.
- Decide to remain in or evacuate the workplace in the event of a fire.

If evacuation is deemed necessary, the RSO ensures that:

- All employees are notified and a head count is taken to confirm total evacuation of all employees.
- When practical, equipment is placed and locked in storage rooms or desks for protection.
- The building owner/superintendent is contacted, informed of the action taken, and asked to assist in coordinating security protection.

In locations where the building owner/superintendent is not available, security measures to protect employee records and property are arranged as necessary.

Workplace Fire Hazards

It is the intent of this company to assure that hazardous accumulations of combustible waste materials are controlled so that a fast developing fire, rapid spread of toxic smoke, or an explosion will not occur. Employees are to be made aware of the hazardous properties of materials in their workplaces, and the degree of hazard each poses.

Fire prevention measures must be developed for all fire hazards found. Once employees are made aware of the fire hazards in their work areas, they must be trained in the fire prevention measures developed and use them in the course of their work. For example, oil soaked rags must be treated differently than general paper trash in office areas. In addition, large accumulations of waste paper or corrugated boxes, etc., can pose a significant fire hazard. Accumulations of materials which can cause large fires or generate dense smoke that are easily ignited or may start from spontaneous combustion, are the types of materials with which this fire prevention plan is concerned. Such combustible materials may be easily ignited by matches, welder's sparks, cigarettes and similar low level energy ignition sources. It is the intent of this company to prevent such accumulation of materials.

Certain equipment is often installed in workplaces to control heat sources or to detect fuel leaks. An example is a temperature limit switch often found on deep-fat food fryers found in restaurants. There may be similar switches for high temperature dip tanks, or flame failure and flashback arrester devices on furnaces and similar heat producing equipment. If these devices are not properly maintained or if they become inoperative, a definite fire hazard exists. Again employees and supervisors should be aware of the specific type of control devices on equipment involved with combustible materials in the workplace and should make sure, through periodic inspection or testing, that these controls are operable. Manufacturer's recommendations should be followed to assure proper maintenance procedures.

Fuel is used throughout the building and work areas/sites as an energy source for various systems or equipment. This fuel can be a significant fire hazard and must be monitored and controlled. Flammables are stored is safe, approved areas away from flames, sparks, heat, or other ignition sources.

Potential Ignition Sources

Flammable or combustible materials may not ignite on their own without an external source of ignition.

Many of the thousands of chemicals in use in the workplace are both highly toxic and highly volatile. Extreme caution must be used to prevent and fight fires resulting from chemical spills and accidents. Chemicals can cause serious injuries through physical (fire or explosion) or health (burns or poisons) hazards. Chemicals are classified by the inherent properties that make them hazardous.

- Flammable - these chemicals catch fire very easily; hazards include property damage, burns and injuries that result when toxic and corrosive compounds are released into the air.
- Reactive - a reactive material is one that can undergo a chemical reaction under certain conditions; reactive substances can burn, explode, or release toxic vapor if exposed to other chemicals, air or water.
- Explosive - an explosive is a substance that undergoes a very rapid chemical change producing large amounts of gas and heat; explosions can also occur as a result of reactions between chemicals not ordinarily considered explosive.

The National Fire Protection Association (NFPA) has classified four general types of fires, based on the combustible materials involved and the kind of extinguisher needed to put them out. The four fire classifications are A, B, C and D.

- Class A. This type of fire is the most common. The combustible materials are wood, cloth, paper, rubber and plastics. The common extinguisher agent is water, but dry chemicals are also effective. Carbon dioxide extinguishers and those using sodium or potassium bicarbonate chemicals are not to be used on this type of fire.
- Class B. Flammable liquids, gases and greases create class B fires. The extinguishers to use are foam, carbon dioxide and dry chemical. Also, water fog and vaporizing liquid extinguishers can be used.
- Class C. Class C fires are electrical fires and a non-conducting agent must be used. Carbon dioxide and dry chemical extinguishers are to be used. Never use foam or water-type extinguishers on these fires.
- Class D. Combustible metals, such as magnesium, titanium, zirconium and sodium fires are class D. These fires require specialized techniques to extinguish them. None of the common extinguishers should be used since they can increase the intensity of the fire by adding an additional chemical reaction.

There are only two dry chemical extinguishers that can be used on A, B, and C fires, and those are multi-purpose ABC extinguishers, either stored pressure or cartridge operated. Multi-purpose extinguishers (ABC) will handle all A, B, and C fires. All fire extinguishers are labeled with either ABC, or A, or B, or C.

It is important to know what type of fire is in progress. If you use a fire extinguisher, be sure to use one only on fires for which that fire extinguisher is designed. Using the wrong agent on a fire may increase the intensity of the fire. Check the label on the fire extinguisher; it should list the fire class(es) it is meant to put out.

Fire Protection Equipment

Fire protection equipment, selected and purchased by [RSO Name], RSO, in use at this company includes the following extinguishers to protect from the various types of fire hazards.

Type of Fire: A, combustibles like wood, paper, etc.
Type of Extinguisher: A or ABC, water or dry chemicals

Type of Fire: B, flammable liquids, gases and greases
Type of Extinguisher: B or ABC, foam, carbon dioxide, dry chemicals

Type of Fire: C, electrical fires
Type of Extinguisher: C or ABC, non-conducting agent such as carbon dioxide and dry chemicals

Type of Fire: D, combustible metals such as titanium and sodium.
Type of Extinguisher: This type of fire calls for specialized techniques for which the fire department will be called.

Maintenance of Fire Protection Equipment

Once hazards are evaluated and equipment is installed to control them that equipment must be monitored on a regular basis to make sure it continues to function properly. Strict guidelines for maintaining the equipment are followed. Fire extinguishers are inspected on a monthly basis with each receiving an annual hydrostatic test.

Housekeeping Procedures

Our company controls accumulations of flammable and combustible waste materials and residues so that they do not contribute to a fire.

The following procedures have been developed to eliminate or minimize the risk of fire due to improperly stored or disposed of materials:

- All aisles, emergency exits, fire extinguishers, eye wash stations, etc., will be kept clear (a minimum of three feet in front of and to either side) of product storage, material storage, fork trucks and pallet jacks at all times.
- Storage areas will be maintained orderly at all times. When supplies are received, the supplies will be stored properly.
- Spills will be cleaned-up immediately and wastes disposed of properly.
- All process leaks will be reported to supervision and maintenance for immediate repair and clean-up.
- All refuse and waste materials will be placed in the recognized waste containers for disposal keeping floor free of paper or saw dust, storing oily rags in specially designed containers, storing all flammables in fire cabinets when not in use.
- At the end of the business day, turn off all office equipment (area heaters, lamps, coffee-maker, PCs, etc.) and lights to save energy and prevent fires. All space heaters be un-plugged at the end of the day to assure they have been turned-off.

Training

At the time of a fire, employees should know what type of evacuation is necessary and what their role is in carrying out the plan. In cases where the fire is large, total and immediate evacuation of all employees is necessary. In smaller fires, a partial evacuation of nonessential employees with a delayed evacuation of others may be necessary for continued plant operation. We must be sure that employees know what is expected of them during a fire to assure their safety.

This document is not one for which casual reading is intended or will suffice in getting the message across. If passed out as a statement to be read to oneself, some employees will choose not to read it, or will not understand the plan's importance.
In addition, training on the plan's content is required by OSHA.

A better method of communicating the fire prevention plan is to give all employees a thorough briefing and demonstration. [Company Name] has chosen to train employees through presentation followed by a drill. Our local fire department requires one or more fire drill(s) each year, so we cover related FPP information at that time.

A better method of communicating the fire prevention plan is to give all employees a thorough briefing and demonstration. [RSO Name] has all managers and supervisors present the plan to their staffs in small meetings.

Training, conducted on initial assignment, includes:

- What to do if employee discovers a fire
- Demonstration of alarm, if more than one type exists
- How to recognize fire exits
- Evacuation routes
- Assisting employees with disabilities
- Measures to contain fire (e.g., closing office doors, windows, etc. in immediate vicinity)
- Head count procedures (see EAP for details)
- Return to building after the "all-clear" signal

The Company must inform employees of the fire hazards of the materials and processes to which they are exposed.

The Company reviews with each employee upon initial assignment those parts of the fire prevention plan which the employee must know to protect the employee in the event of an emergency.

The written plan shall be kept in the workplace and made available for employee review. For those employers with 10 or fewer employees, the plan may be communicated orally to employees and the employer need not maintain a written plan.

If the RSO has reason to believe an employee does not have the understanding required, the employee must be retrained. The RSO certifies in writing that the employee has received and understands the fire prevention plan training.

Because failure to comply with company policy concerning fire prevention can result in OSHA citations and fines as well as employee injury, an employee who does not comply with this program will be disciplined.

Fire Prevention Equipment

The RSO/supervisor provides training for each employee who is required to use fire prevention equipment. Employees shall not use fire prevention equipment without appropriate training. Training, before an individual is assigned responsibility to fight a fire, includes:

- Types of fires
- Types of fire prevention equipment
- Location of fire prevention equipment
- How to use fire prevention equipment
- Limitations of fire prevention equipment
- Proper care and maintenance of assigned fire prevention equipment and

Employees must demonstrate an understanding of the training and the ability to use the equipment properly before they are allowed to perform work requiring the use of the equipment.

If the RSO has reason to believe an employee does not have the understanding or skill required, the employee must be retrained. The RSO certifies in writing that the employee has received and understands the fire prevention equipment training.

HAZARD COMMUNICATION

This Hazard Communication Program provides detailed safety guidelines and instructions for receipt, use and storage of chemicals at our facility by employees and contractors.

Administrative Duties

RORY B. BARTON, RSO has overall responsibility for coordinating safety and health programs in this company. He/she is the person having overall responsibility for the Hazard Communication Program. RORY BARTON will review and update the program, as necessary. Copies of the written program may be obtained in the RSO's office.

General Program Information

This written Hazard Communication Plan (HAZCOM) has been developed based on OSHA's Hazard Communication Standard and consists of the following elements:

- Identification of Hazardous Materials
- Product Warning Labels
- Material Safety Data Sheets (MSDS)
- Written Hazard Communication Program
- Effective Employee Training

Some chemicals are explosive, corrosive, flammable, or toxic. Other chemicals are relatively safe to use and store but may become dangerous when they interact with other substances. To avoid injury and/or property damage, persons who handle chemicals in any area of the Company must understand the hazardous properties of the chemicals. Before using a specific chemical, safe handling methods and health hazards must always be reviewed. Supervisors are responsible for ensuring that the equipment needed to work safely with chemicals is accessible and maintained for all employees on all shifts.

Employee Training

COMELCO, INC. will communicate hazard communications to non-English speaking employees by have training and communication materials in the employee's language and/or through the use of a interpreter.

Initial Orientation Training

All new employees shall receive safety orientation training covering the elements of the HAZCOM and Right to Know Program. This training will consist of general training covering:

- Location and availability of the written Hazard Communication Program
- Location and availability of the List of Chemicals used in the workplace
- Methods and observation used to detect the presence or release of a hazardous chemical in the workplace.
- The specific physical and health hazard of all chemicals in the workplace
- Specific control measures for protection from physical or health hazards
- Explanation of the chemical labeling system
- Location and use of MSDS

Job Specific Training

Employees will receive on the job training from their supervisor. This training will cover the proper use, inspection and storage of necessary personal protective equipment and chemical safety training for the specific chemicals they will be using or will be working around.

Annual Hazard Communication refresher training will be conducted as part of the company's continuing safety training program.

Immediate On-the-Spot Training

This training will be conducted by supervisors for any employee that requests additional information or exhibits a lack of understanding of the safety requirements.

COMELCO, INC. will communicate hazard communications to non-English speaking employees by have training and communication materials in the employee’s language and/or through the use of a interpreter.

Non-Routine Tasks

Non-routine tasks are defined as working on, near, or with unlabeled piping, unlabeled containers of an unknown substance, confined space entry where a hazardous substance may be present and/or a one-time task using a hazardous substance differently than intended (example: using a solvent to remove stains from tile floors).

Steps for Non-Routine Tasks

Step 1: Hazard Determination
Step 2: Determine Precautions
Step 3: Specific Training & Documentation
Step 4: Perform Task

All non-routine tasks will be evaluated by the Area Supervisor and RSO before the task commences, to determine all hazards present. This determination will be conducted with quantitative/qualitative analysis (air sampling, substance identification/analysis, etc., as applicable).

Once the hazard determination is made, the Department Supervisor and Safety Department will determine the necessary precautions needed to either remove the hazard, change to a non-hazard, or protect from the hazard (use of personal protective equipment) to safeguard the Employees present. In addition, the Department Supervisor or Safety Department will provide specific safety training for Employees present or affected and will document the training.

Off-Site Use or Transportation of Chemicals

An MSDS will be provided to employees for each chemical and each occurrence of use or transport away from the company facilities. All State and Federal DOT Regulations will be followed including use of certified containers, labeling & marking, securing of containers and employee training.

General Chemical Safety

Assume All Chemicals Are Hazardous

The number of hazardous chemicals and the number of reactions between them is so large that prior knowledge of all potential hazards cannot be assumed. Use chemicals in as small quantities as possible to minimize exposure and reduce possible harmful effects.

General Safety Rules

- Read and understand the Material Safety Data Sheets.
- Keep the work area clean and orderly.
- Use the necessary safety equipment.
- Carefully label every container with the identity of its contents and appropriate hazard warnings.
- Store incompatible chemicals in separate areas.
- Substitute less toxic materials whenever possible.
- Limit the volume of volatile or flammable material to the minimum needed for short operation periods.
- Provide means of containing the material if equipment or containers should break or spill their contents.

Task Evaluation

Each task that requires the use of chemicals should be evaluated to determine the potential hazards associated with the work. This hazard evaluation must include the chemical or combination of chemicals that will be used in the work, as well as other materials that will be used near the work. If a malfunction during the operation has the potential to cause serious injury or property damage, a Safe Operational Procedure (SOP) should be prepared and followed. Operations must be planned to minimize the generation of hazardous wastes.

Effects on Reproduction

Both men and women may be exposed to hazardous agents that can cause infertility or result in genetic damage that is passed on to offspring. These agents include ionizing radiation, alcohol, cigarette smoke, pharmaceuticals, and some of the thousands of different chemicals that are used in the home or workplace. Although many of these have been tested to determine whether they cause acute (immediate) effects on the body, few have been studied to see if they cause cancer (carcinogens), birth defects (teratogens), or genetic defects (mutagens). Even fewer have been studied to see if they can cause infertility, menstrual disorders, or other disorders relating to reproduction. The primary path for hazardous substances to reach an unborn child is through the placenta. Scientists now believe that most chemical substances or drugs can cross this barrier with varying degrees of ease and enter the system of the developing fetus. Thus, many chemicals and drugs that enter a pregnant woman's body (through breathing, swallowing, absorption through the skin, etc.) will eventually enter the mother's blood circulation and find their way into the unborn child. In general, the important questions of exactly how much of the toxic substance that enters the mother's body will reach the fetus or what concentration the fetus can tolerate without harmful effects are not yet answered. The fetus may be most vulnerable in the early weeks of pregnancy, but it is also at risk later in pregnancy. In light of the potential harm of workplace exposures to both a pregnant woman and her developing fetus, it is very important and

required by [Company Name] policy for the woman to inform the Responsible Safety Officer of her pregnancy immediately.

Airborne Contaminants

Exposures by inhalation of airborne contaminants (gases, vapors, fumes, dusts, and mists) must not exceed the levels listed in the latest edition of Threshold Limit Values of Airborne Contaminants (TLV) published by the American Conference of Governmental Industrial Hygienists. These TLV levels refer to airborne concentrations of substances and represent conditions under which it is believed that workers may be repeatedly exposed without adverse effect. In all cases of potentially harmful exposure, feasible engineering or administrative controls must first be established. In cases where respiratory protective equipment, alone or with other control measures, is required to protect the employee, the protective equipment must be approved by the Responsible Safety Officer, for each specific use.

Safety Equipment

Eyewash fountains are required if the substance in use presents an eye hazard. The eyewash fountain must provide a soft stream or spray of aerated water. In areas where a corrosive chemical or rapid fire hazard exists, safety showers must be provided for immediate first aid treatment of chemical splashes and for extinguishing clothing fires. The shower must be capable of drenching the victim immediately in the event of an emergency. Eyewash fountains and safety showers should be located close to each other so that, if necessary, the eyes can be washed while the body is showered. Access to these facilities must always remain open. In case of accident, flush the affected part for at least 15 minutes. Report the accident to the Responsible Safety Officer immediately. A special first aid treatment kit for fluorine and hydrofluoric acid burns is prepared by the Medical Services Department. The kit is obtained by contacting the Responsible Safety Officer. Safety shields must be used for protection against possible explosions or splash hazards. Company equipment must be shielded on all sides so that there is no line-of-sight exposure of personnel. The sash on a chemical fume hood is a readily available partial shield. However, a portable shield must also be used, particularly with hoods that have vertical-rising sashes rather than horizontal-sliding sashes.

Chemical Storage

The separation of chemicals (solids or liquids) during storage is necessary to reduce the possibility of unwanted chemical reactions caused by accidental mixing. Explosives should be stored separately outdoors. Use either distance or barriers (e.g., trays) to isolate chemicals into the following groups:

- Flammable Liquids: store in approved flammable storage lockers.
- Acids: treat as flammable liquids
- Bases: do not store bases with acids or any other material
- Other liquids: ensure other liquids are not incompatible with any other chemical in the same storage location.
- Lips, strips, or bars are to be installed across the width of storage shelves to restrain the chemicals in case of earthquake.

Chemicals will not be stored in the same refrigerator used for food storage. Refrigerators used for storing chemicals must be appropriately identified by a label on the door.

Disposal of Chemicals

All COMELCO, INC. employees, participating guests, and visitors using hazardous chemicals are responsible for disposing of these chemicals safely. Federal and state regulations mandate strict disposal procedures for chemicals. To comply with these regulations all persons using Company facilities must observe these procedures. Routine Disposal of Chemicals In general the disposal of hazardous chemicals to the sanitary sewer is not permitted. The Responsible Safety Officer will advise on the proper disposal of chemical wastes. In using chemical waste storage containers, certain procedures must be observed, as listed below: Incompatible chemicals must not be mixed in the same container (e.g., acids should not be mixed with bases; organic liquids should not be mixed with strong oxidizing agents). Waste oils must be collected in 55-gallon drums. Disposal solids, and explosive materials must be stored in separate containers.

The following requirements must be met as a condition for pickup and disposal of chemicals by the Responsible Safety Officer:

- Chemicals must be separated into compatible groups.
- Leaking containers of any sort will not be accepted.
- Dry materials (gloves, wipes, pipettes, etc.) must be securely contained in plastic bags and over packed in a cardboard box.
- Packages that are wet or have sharp protruding objects will not be accepted for pick up.
- Unknown chemicals will require special handling.

The responsible department must make every effort to identify the material that is to be disposed. If all the user's attempts to identify the waste chemicals have failed, the Responsible Safety Officer will accept the waste and analyze the material. For more information call the Responsible Safety Officer. Each breakable container must be properly boxed. Place all bottles in plastic bags, then place in a sturdy container and use an absorbent cushioning material that is compatible with the chemicals. Each primary container must be labeled with content, amount, physical state, and the percentage breakdown of a mixture. Each box must have a complete list of contents or description written on an official Responsible Safety Officer hazardous materials packing list. Blank packing lists are available from the Responsible Safety Officer. For safety purposes, boxes must be of a size and weight so that one person can handle them. Boxes that exceed 45 pounds or 18 inches on a side cannot be safely handled by one person and will not be acceptable for pick up. General Housekeeping Rules: Maintain the smallest possible inventory of chemicals to meet your immediate needs. Periodically review your stock of chemicals on hand. Ensure that storage areas, or equipment containing large quantities of chemicals, are secure from accidental spills. Rinse emptied bottles that contain acids or inflammable solvents before disposal. Recycle unused laboratory chemicals wherever possible.

DO NOT place hazardous chemicals in salvage or garbage receptacles. Pour chemicals onto the ground. Dispose of chemicals through the storm drain system. Dispose of highly toxic, malodorous, or lachrymatory chemicals down sinks or sewer drains.

List of Hazardous Materials

The Company has compiled a list of hazardous materials employees may be potentially exposed to. This list is kept with the Material Safety Data Sheet.

Container Labels

It is extremely important that all containers of chemicals are properly labeled. This includes every type of container from a 5000-gallon storage tank to a spray bottle of degreaser. The following requirements apply:

- All containers will have the appropriate label, tag or marking prominently displayed that indicates the identity, safety and health hazards.
- Portable containers which contain a small amount of chemical need not be labeled if they are used immediately that shift, but must be under the strict control of the employee using the product.
- All warning labels, tags, etc., must be maintained in a legible condition and not be defaced. Facility weekly supervisor inspections will check for compliance of this rule.
- Incoming chemicals are to be checked for proper labeling.

Emergencies and Spills

- In case of an emergency, implement the proper Emergency Action & Response Plan.
- Evacuate people from the area.
- Isolate the area.
- If the material is flammable, turn off ignition and heat sources.
- Only personnel specifically trained in emergency response are permitted to participate in chemical emergency procedures beyond those required to evacuate the area.
- Call for Emergency Response Team assistance if required.

Housekeeping

- Maintain the smallest possible inventory of chemicals to meet immediate needs.
- Periodically review stock of chemicals on hand.
- Ensure that storage areas, or equipment containing large quantities of chemicals, are secure from accidental spills.
- Rinse emptied bottles that contain acids or inflammable solvents before disposal.
- Recycle unused laboratory chemicals wherever possible.

DO NOT Place hazardous chemicals in salvage or garbage receptacles.
DO NOT Pour chemicals onto the ground.
DO NOT Dispose of chemicals through the storm drain system.
DO NOT Dispose of highly toxic, malodorous chemicals down sinks or sewer drains.

Contractors

All outside contractors working inside Company Facilities are required to follow the requirements of this program. The Company will provide Contractors information concerning:

- Location of MSDS
- Precautions to be taken to protect contractor employees
- Potential exposure to hazardous substances
- Chemicals used in or stored in areas where they will be working
- Location and availability of Material Safety Data Sheets
- Recommended Personal Protective Equipment

- Labeling system for chemicals

MSDS Information

Material Safety Data Sheets are provided by the chemical manufacturer to provide additional information concerning safe use of the product. Each MSDS provides:

- Common Name and Chemical Name of the material
- Name, address and phone number of the manufacturer
- Emergency phone numbers for immediate hazard information
- Date the MSDS was last updated
- Listing of hazardous ingredients
- Chemical hazards of the material
- Information for identification of chemical and physical properties

Lay terms for potential health risks will be provided along with the MSDS's. Contact your supervisor to obtain an MSDS on any hazardous chemical in our workplace.

Information Chemical Users must know

- Fire and/or Explosion Information

- Material Flash Point, auto-ignition temperature and upper/lower flammability limits
- Proper fire extinguishing agents to be used
- Fire fighting techniques
- Any unusual fire or explosive hazards

- Chemical Reaction Information

    - Stability of Chemical
    - Conditions and other materials which can cause reactions with the chemical
    - Dangerous substances that can be produced when the chemical reacts

- Control Measures

- Engineering Controls required for safe product use
- Personal protective equipment required for use of product
- Safe storage requirements and guidelines
- Safe handling procedures

- Health Hazards

- Permissible Exposure Limit (PEL) and Threshold Limit Value (TLV)
- Acute or Chronic symptoms of exposure
- Main routes of entry into the body
- Medical conditions that can be made worse by exposure
- Cancer causing properties if any
- Emergency and First Aid treatments

- Spill & Leak Procedures

- Clean up techniques

- Personal Protective Equipment to be used during cleanup

- Disposal of waste & cleanup material

Employee Use of MSDS

For MSDS use to be effective, employees must:

- Know the location of the MSDS
- Understand the major points for each chemical
- Check MSDS when more information is needed or questions arise
- Be able to quickly locate the emergency information on the MSDS
- Follow the safety practices provided on the MSDS

Responsibilities

- Management

- Ensure compliance with this program
- Conduct immediate corrective action for deficiencies found in the program
- Maintain an effective Hazard Communication training program
- Make this plan available to employees or their designated representative
- Shipping & Receiving Manager
- Ensure all received containers are properly labeled and that labels are not removed or defaced
- Ensure all shipped containers are properly labeled
- Ensure shipping department employees are properly trained in spill response
- Ensure received Material Safety Data Sheets (MSDS) are properly distributed

- RSO

- Maintain a list of hazardous chemicals using the identity that is referenced on the MSDS
- Monitor the effectiveness of the program
- Conduct annual audit of the program
- Monitor employee training to ensure effectiveness
- Keep management informed of necessary changes
- Ensure MSDSs are available as required
- Monitor facility for proper use, storage and labeling of chemicals
- Ensure MSDS are available for emergency medical personnel when treating exposed employees
- Provide information, as requested, concerning health effects and exposure symptoms listed on MSDSs

- Supervisors

- Comply with all specific requirements of the program
- Provide specific chemical safety training for assigned employees

- Ensure chemicals are properly used stored & labeled
- Ensure only the minimum amount necessary is kept at work stations
- Ensure up to date MSDS are readily accessible to all employees on all shifts

- Employees

- Comply with chemical safety requirements of this program
- Report any problems with storage or use of chemicals
- Immediately report spills of suspected spills of chemicals
- Use only those chemicals for which they have been trained
- Use chemicals only for specific assigned tasks in the proper manner

- Contractors

- Comply will all aspects of this program
- Coordinate information with the RSO
- Ensure Contractor employees are properly trained
- Notify the RSO before bringing any chemicals into company property or facilities
- Monitor and ensure proper storage and use of chemicals by Contractor employees

Multi-Employer Workplace

The RSO is responsible for informing Contractors and Sub-Contractors of hazardous substances to which they or their employees may be exposed while performing their work. This information will be provided to the contractor during the pre-construction meeting.

The RSO is also responsible for obtaining a list of MSDS for any hazardous substance that a Contractor is bringing on to a work-site. This information shall be provided to the Project Director/Site Coordinator prior to initiation of the Contract.

ELECTRICAL SAFETY & GROUND FAULT PROTECTION

Purpose

The Electrical Safety program is designed to prevent electrically related injuries and property damage. This program also provides for proper training of maintenance employees to ensure they have the requisite knowledge and understanding of electrical work practices and procedures. Only employees qualified in this program may conduct adjustment, repair or replacement of electrical components or equipment. Electricity has long been recognized as a serious workplace hazard, exposing employees to such dangers as electric shock, electrocution, fires and explosions.

A written description of the program, including the specific procedures adopted by us, is available at all job sites for inspection and copying by OSHA and any affected employee.

Administrative Duties

We have designated the following competent person(s) to implement the program: [RSO Name], RSO. The competent person(s) are responsible for developing and maintaining this written Electrical Safety Plan.

They are qualified, by appropriate training and experience that is commensurate with the complexity of the plan, to administer and oversee our electrical safety plan and conduct the required evaluations of plan effectiveness.

Equipment Grounding Conductor Program

This written plan is intended to establish and implement specific procedures for an equipment grounding conductor program covering:

- all cord sets,
- receptacles which are not a part of the building or structure, and
- equipment connected by cord and plug which are available for use or used by employees.

These requirements apply to all of [Company Name]'s construction job sites.

Equipment Grounding Conductor Inspection

Each cord set, attachment cap, plug and receptacle of cord sets, and any equipment connected by cord and plug, except cord sets and receptacles which are fixed and not exposed to damage, are visually inspected by Site Supervisor before each day's use for external defects, such as deformed or missing pins or insulation damage, and indications of possible internal damage.

Equipment found damaged or defective is not to be used until repaired, and is to be removed from service immediately by the person finding it and handed over to Site Supervisor.

Equipment Grounding Conductor Testing

The following tests are performed on all cord sets, receptacles which are not a part of the permanent wiring of the building or structure, and cord- and plug-connected equipment required to be grounded:

All equipment grounding conductors are tested for continuity and are electrically continuous.

Each receptacle and attachment cap or plug is tested by (enter your answer) for correct attachment of the equipment grounding conductor. The equipment grounding conductor is connected to its proper terminal.

All required tests are performed:

- Before first use.
- Before equipment is returned to service following any repairs.
- Before equipment is used after any incident which can be reasonably suspected to have caused damage (for example, when a cord set is run over).
- At intervals not to exceed 3 months, except that cord sets and receptacles which are fixed and not exposed to damage will be tested at intervals not exceeding 6 months.

COMELCO, INC. does not provide or permit employees to use any equipment which has not met the requirements of this program.

Recordkeeping

Tests performed as required in this program are recorded. The test records identify each receptacle, cord set, and cord- and plug-connected equipment that passed the test, and indicate the last date it was tested or the interval for which it was tested.

The RSO is responsible for maintaining these records.

This record is kept by means of an inspection log and is maintained until replaced by a more current record. The record is made available on the job site for inspection by OSHA and any affected employee.

Working On Electric Circuit Parts or Equipment

Only qualified personnel are permitted to work on electric circuit parts or equipment that have not been de-energized. Qualified personnel will be made familiar with the use of special precautionary techniques, including but not limited to the following:

- Proper personal protective equipment.
- Insulating and shielding materials.
- The use of insulated tools to ensure safety.

Overhead Lines

If work is to be performed near overhead lines, the lines will be deenergized and grounded, or other protective measures will be provided before work is started. If the lines are to be deenergized, arrangements will be made with the person or organization that operates or controls the electric circuits involved to deenergize and ground them. If protective measures, such as guarding, isolating, or insulating, are provided, these precautions will prevent employees from contacting such lines directly with any part of their body or indirectly through conductive materials, tools, or equipment.

Warnings and Barricades

Warnings and barricades will be employed to alert unqualified Employees of the present danger related to exposed energized parts. The following rules apply:

- Safety signs, warning tags, etc., must be used to warn Unqualified Employees of the electrical hazards present, even temporarily, that may endanger them.
- Non-conductive barricades will be used with safety signs to prevent Unqualified Employees access to exposed energized parts or areas.
- Where barricades and warning signs do not provide adequate protection from electrical hazards, an Attendant will be stationed to warn and protect Employees.

Working Clearances

600 Volts, Nominal, or Less

Working space about electric equipment. Sufficient access and working space will be provided and maintained about all electric equipment to permit ready and safe operation and maintenance of such equipment.

Working clearances. Except as required or permitted elsewhere in this Chapter, the dimension of the working space in the direction of access to live parts operating at 600 volts or less and likely to require examination, adjustment, servicing, or maintenance while alive will not be less than indicated in Table 1.

In addition to the dimensions shown in Table 1, workspace will not be less than 30 inches (762 mm) wide in front of the electric equipment. Distances will be measured from the live parts if they are exposed, or from the enclosure front or opening if the live parts are enclosed. Walls constructed of concrete, brick, or tile are considered to be grounded.

Working space is not required in back of assemblies such as dead-front switchboards or motor control centers where there are no renewable or adjustable parts such as fuses or switches on the back and where all connections are accessible from locations other than the back.

TABLE 1 WORKING CLEARANCES

Nominal voltage to ground	**Minimum clear distance for conditions [1]**		
	(a)	**(b)**	**(c)**
	Feet[2]	**Feet[2]**	**Feet [2]**
0 - 150	3	3	3
151 - 600	3	3 ½	4

[1] Conditions (a), (b), and (c) are as follows: (a) Exposed live parts on one side and no live or grounded parts on the other side of the working space, or exposed live parts on both sides effectively guarded by insulating material. Insulated wire or insulated busbars operating at not over 300 volts are not considered live parts. (b) Exposed live parts on one side and grounded parts on the other side. (c) Exposed live parts on both sides of the workspace (not guarded as provided in Condition (a)) with the operator between.

[2] NOTE: For International System of Units (SI): one foot = 0.3048 m.

Clear spaces. Working space required will not be used for storage. When normally enclosed live parts are exposed for inspection or servicing, the working space, if in a passageway or general open space, will be guarded.

Access and entrance to working space. At least one entrance will be provided to give access to the working space about electric equipment.

Front working space. Where there are live parts normally exposed on the front of switchboards or motor control centers, the working space in front of such equipment will not be less than 3 feet (914 mm).

Headroom. The minimum headroom of working spaces about service equipment, switchboards, panelboards, or motor control centers will be 6 feet 3 inches (1.91 m).

Guarding of live parts.

Except as required or permitted elsewhere, live parts of electric equipment operating at 50 volts or more will be guarded against accidental contact by cabinets or other forms of enclosures, or by any of the following means:

- By location in a room, vault, or similar enclosure that is accessible only to qualified persons.
- By partitions or screens so arranged that only qualified persons will have access to the space within reach of the live parts. Any openings in such partitions or screens will be so sized and located that persons are not likely to come into accidental contact with the live parts or to bring conducting objects into contact with them.
- By location on a balcony, gallery, or platform so elevated and arranged as to exclude unqualified persons.
- By elevation of 8 feet (2.44 m) or more above the floor or other working surface and so installed as to exclude unqualified persons.
- In locations where electric equipment would be exposed to physical damage, enclosures or guards will be so arranged and of such strength as to prevent such damage.
- Entrances to rooms and other guarded locations containing exposed live parts will be marked with conspicuous warning signs forbidding unqualified persons to enter.

Additional State Requirements - Low-Voltage Electrical Installations and Equipment (<600 volts)

- Suitable insulated gloves must be worn for voltages in excess of 300 volts, nominal.

- Suitable accident prevention tags must be used to control a specific hazard. Such tags must provide the reason for placing tag, the name of person placing the tag and how that person may be contacted, and the date the tag was placed.

- No electrical power source, permanent or temporary, may be connected to a premises wiring system, or parts of such a system, unless positive means are used to prevent the transmission of electricity beyond the premises wiring system, or beyond any intentionally segregated parts of such system.

- Equipment intended to break current at fault levels must have an interrupting rating sufficient for the system voltage and the current, which is available at the line terminals of the equipment.

Equipment intended to break current at other than fault levels must have an interrupting rating at system voltage sufficient for the current that must be interrupted.

- Attics, furred ceilings, and underfloor spaces must have minimum unobstructed access openings of 22 inches by 30 inches.

- Each motor controller must be legibly marked to indicate the motor it controls, and each motor must have the same marking unless located and arranged so that the control point is evident.

- When a circuit is abandoned or discontinued, its conductors must be removed from the raceways, or be maintained as if in use.

- Open wiring and cables must be 16 feet above areas (other than thoroughfares) where it is possible to drive vehicles, and 12 feet above areas accessible to pedestrians only.

- Conductors run above the top level of a window may be less than 3 feet above the window provided that they are at the maximum practical distance and that in no case are they less than 1 foot above the window.

- Under the following conditions, the frame of a portable or a vehicle-mounted generator need not be grounded and will be permitted to serve as the grounding electrode for a system supplied by the generator:
    - the noncurrent-carrying metal parts of equipment located on the vehicle and the equipment grounding conductor terminals of the receptacles are bonded to the generator or vehicle frame; and
    - the generator supplies only equipment located on the vehicle or the generator and/or cord- and plug-connected equipment through receptacles mounted on the vehicle or on the generator; and
    - the frame of a vehicle-mounted generator is bonded to the vehicle frame; or
    - the generator is single-phase, portable or vehicle-mounted, rated not more than 5 KW, and the circuit conductors of the generator are insulated from the generator frame and all other grounded surfaces.
    - Circuits for electric cranes operating over combustible fibers in Class III locations must not be grounded.

- Exposed, noncurrent-carrying metal parts of the following kinds of equipment, regardless of voltage, must be grounded:
    - switchboard frames and structures supporting switching equipment (except frames of DC, single-polarity switchboards where effectively insulated, and marked "Switchboard Frame Not Grounded," or equivalent wording);
    - generator and motor frames in an electrically operated organ (except where the generator is effectively insulated from ground and from the motor driving it, and marked "Generator Frame Not Grounded," or equivalent wording);
    - motor frames;
    - enclosures for motor controllers, except lined covers of snap switches;
    - electric equipment for elevators and cranes;
    - electric equipment in garages, theaters, and motion picture studios;
    - electric signs and associated equipment, except where insulated from ground and from other conductive objects and accessible only to qualified persons;

  - motion picture projection equipment;
  - equipment supplied by Class 1, 2, and 3 remote-control and signaling circuits; and
  - lighting fixtures.

- The path to ground from circuits, equipment, and conductor enclosures must have ample carrying capacity to conduct safely any currents liable to be imposed on it, and have impedance sufficiently low to limit the potential above ground and to facilitate the operation of the overcurrent devices in the circuit.

- Where an AC system is connected to a grounding electrode in or at a building, the same electrode must be used to ground conductor enclosures and equipment in or on that building. Two or more electrodes that are effectively bonded together will be considered as a single electrode in this sense.

- For the grounding of noncurrent-carrying metal parts of equipment, raceways, and other enclosures, the following requirements apply:
  - Individually covered or insulated grounding conductors must have a continuous outer finish that is either green, or green with one or more yellow stripes.
  - An insulated conductor larger than No. 6, and (where the conditions of maintenance and supervision assure that only qualified persons will service the installation) an insulated conductor in a multiconductor cable may, at the time of installation, be permitted to be permanently identified as a grounding conductor at each end and at every point where the conductor is accessible. Identification must be accomplished by stripping the insulation from the entire exposed length, coloring the exposed insulation green, or marking the exposed insulation with green colored tape or green colored adhesive labels.
  - Bare, covered, or insulated equipment grounding conductors are permitted.

- Noncurrent-carrying metal parts of cord- and plug-connected equipment, where required to be grounded, must be grounded by means of:
  - the metal enclosure of the conductors supplying such equipment, if a grounding-type attachment plug with one fixed grounding contact is used for grounding the metal enclosure, and if the metal enclosure of the conductors is secured to the attachment plug and to equipment by connectors approved for the purpose;
  - a grounding conductor run with the power supply conductors in a cable assembly or flexible cord properly terminated in a grounding-type attachment plug with one fixed grounding contact; or
  - a separate flexible wire or strap, insulated or bare, protected as well as practicable against physical damage, where part of approved portable equipment.

- The metal noncurrent-carrying parts of the following equipment must be effectively bonded together:
  - service raceways, cable trays, or service cable armor or sheath;
  - all service equipment enclosures containing service-entrance conductors, including meter fittings, boxes, or the like, interposed in the service raceway or armor; and
  - any metallic raceway or armor enclosing a grounding electrode conductor.

- An equipment bonding jumper must be used to connect the grounding terminal of a grounding-type receptacle to a grounded box, with certain exceptions.

- Equipment bonding jumpers must be of copper or other corrosion-resistant material, and may be installed inside or outside of a raceway or enclosure. Where installed on the outside, the length of the equipment bonding jumper must not exceed 6 feet and must be routed with the raceway or enclosure.

- Where available on the premises, a metal underground water pipe must always be used as the grounding electrode, regardless of its length and whether supplied by a community or a local underground water piping system or by a well on the premises. Where the buried portion of the water pipe (including any metal well casing effectively bonded to the pipe) is less than 10 feet long or where the water pipe is or is likely to be isolated by insulated sections or joints so that the effectively grounded portion is less than 10 feet long, it must be supplemented by the use of an additional electrode. The interior metal cold water piping system must always be bonded to the service-equipment enclosure, the grounded conductor at the service, the grounding electrode conductor where of sufficient size, or to the one or more grounding electrodes used. Where a water system is not available, the grounding connection must be made to:

    - the metal frame of the building, where effectively grounded;
    - an electrode encased by at least 2 inches of concrete, located within and near the bottom of a concrete foundation or footing that is in direct contact with the earth, consisting of at least 20 feet of one or more steel reinforcing bars or rods of not less that 1/2-inch diameter, or consisting of at least 20 feet of bare copper conductor not smaller than No. 4 AWG;
    - an electrically continuous metal underground gas piping system that is uninterrupted with insulating sections or joints and without an outer nonconductive coating (if acceptable to the gas supplier and the authority having jurisdiction); or
    - other local metal underground systems or structures, such as piping systems and underground tanks.

- Where none of the electrodes specified above is available, one of the following must be used:
    - rod and pipe electrodes at least 8 feet long, or
    - plate electrodes that expose at least 2 square feet of surface to exterior soil. A single electrode consisting of a rod, pipe, or plate, which does not have a resistance to ground of 25 ohms or less must be augmented by one additional electrode.

- Connection devices or fittings that depend on solder must not be used.

- Where more than one equipment grounding conductor of a branch circuit enters a box, all such conductors must be in good electrical contact with each other and the arrangement must be such that the disconnection or removal of a receptacle, fixture, or other device fed from the box will not interfere with or interrupt the grounding continuity.

- A connection must be made between the one or more equipment grounding conductors and a metal box by means of a grounding screw, which must be used for no other purpose, or an approved grounding device. One or more equipment grounding conductors brought into a nonmetallic outlet box must be so arranged that a connection can be made to any fitting or device in that box requiring grounding.

- For temporary wiring, multi-conductor cords and cables must be hard service type or equivalent, with multi-conductor fittings, and open wire taps, not exceeding 6 inches in length, may be made from permanent wiring outlet boxes to supply approved lampholders.

- The minimum size of a temporary wood pole must be 6 inches by 6 inches (nominal) if square, or have a top diameter of at least 5 inches if round, and be of sufficient length to maintain all required overhead clearances, but at least 20 feet long. The lower end must be embedded at least 4 feet in the ground.

- Open exposed wiring must not be installed in any building or portion of a building, except in substations, transformer vaults, transformer enclosures, on the supply side of electric furnace electrodes, or in tunnels or similar locations, where such spaces are restricted to electrical use and are accessible to qualified and authorized persons only.

- All manually operated switches must be of an approved externally operable type, unless operating at 50 volts or less, and must be enclosed in boxes or cabinets.

- Grounding conductors must be continuously marked with a green color or a green color with one or more yellow stripes, and must not be used for anything other than grounding purposes. The identifying color(s) must be on the insulation or on a braid.

- Lampholders, fixtures, or standard receptacles rated 15 amperes or less must not be supplied by voltages exceeding 150 volts to ground, with some exceptions.

- Attachment plugs or other connectors supplying equipment at more than 300 volts must be of the skirted type, unless designed so that the arc will be confined within the body or case of the device.

- All new or replacement 15- and 20-ampere attachment plugs must be of dead-front construction such that there are no exposed current-carrying metal parts except the prongs, blades, or pins.

- Grounding-type receptacles, cord connectors, and attachment plugs must be provided with one fixed grounding pole in addition to the circuit poles. Grounding-type receptacles, adapters, cord connectors, and attachment plugs must be grounded.

- All smoothing irons and portable electrically heated appliances that are rated at more than 50 watts and produce temperatures in excess of 250°F on surfaces with which the cord is likely to be in contact must be provided with approved heater cords.

- Portable immersion-type electric heaters must be constructed and installed so that current-carrying parts are effectively insulated from electrical contact with the substance in which they are immersed.

- Each electrically heated appliance that is intended by size, weight, and service to be located in a fixed position must be so placed as to provide ample protection between the appliance and adjacent combustible material.

- Each smoothing iron and other portable electrically heated appliance intended to be applied to combustible material must be equipped with an approved stand, either as a separate piece of equipment or a part of the appliance.

- Electrically heated appliances intended to be applied to combustible material must be provided with a signal, unless provided with an integral temperature-limiting device.

- Infrared heating lamps rated at 300 watts or less are permitted with lampholders of the medium-base, unswitched porcelain type or other types approved for the purpose. Screw shell lampholders must not be used with infrared lamps over 300 watts rating.

- A separable connector or a plug and receptacle combination in the supply line to an oven or cooking unit used only for ease in servicing or for installation must not be installed as the disconnecting means, and must be approved for the temperature of the space in which it is located.

- All heating elements that are rated over one ampere, replaceable in the field, and a part of an appliance must be legibly marked with the ratings in volts and amperes, or in volts and watts, or with the manufacturer's part number.

- If an appliance is to be used on a specific frequency or frequencies, or when motor overload protection external to the appliance is required, it must be so marked. The marking on an appliance consisting of a motor with other load(s) or motors with or without other load(s) must specify the minimum circuit size and the maximum rating of the circuit overcurrent protective device (with some exceptions).

- Means must be provided to disconnect the heater, controller(s), and overcurrent protective device(s) of all fixed electric space heating equipment from all ungrounded conductors. Switches and circuit breakers used as disconnecting means must be of the indicating type. Duct heater controller equipment must be accessible with the disconnecting means installed at or within sight from the controller, unless the disconnecting means is arranged to be locked in the "open" position.

- All fixed outdoor electric de-icing and snow melting equipment must be provided with a means for disconnection from all ungrounded conductors. Where readily accessible to the user of the equipment, the branch circuit switch or circuit breaker may serve as the disconnecting means. Switches used as disconnecting means must be of the indicating type.

- The presence of electric pipeline and vessel heating equipment must be evident by the posting of appropriate signs or other markings at frequent intervals in the area involved. Means must be provided to disconnect all fixed electric pipeline or vessel heating equipment from all ungrounded conductors. The branch circuit switch or circuit breaker, where readily accessible to the user of the equipment, may serve as the disconnecting means. Switches used as disconnecting means must be of the indicating type, and must be provided with a positive lockout in the "off" position. The factory-installed attachment plug of cord-connected equipment, rated 20 amperes or less and 150 volts or less to ground is an acceptable means of disconnection.

- A motor-running overload device that can restart a motor automatically after overload tripping must not be installed unless approved for use with the motor it protects. A motor that can restart automatically after shutdown may not be installed if its automatic restarting can result in injury to persons.

- Where a transformer or other device is used to obtain a reduced voltage for the control circuit and is located in the controller, the transformer or other device must be connected to the load side of the disconnecting means for the control circuit.

- Each motor controller must be capable of starting and stopping the motor it controls, and must be capable of interrupting the stalled-rotor current of the motor. An autotransformer starter must provide an off position, a running position, and at least one starting position. It must be so designed that it cannot rest in the starting position or in any position that will render the overload device in the circuit inoperative. Motor-starting rheostats must be so designed that the contact arm cannot be left on intermediate segments. The point or plate on which the arm rests when in the starting position must have no electrical connection with the resistor. Motor-starting rheostats for direct current motors operated from a constant voltage supply must be equipped with automatic devices that will interrupt the supply before the speed of the motor has fallen to less than 1/3 its normal value.

- The controller must have a horsepower rating not lower than the horsepower rating of the motor, with certain exceptions. The controller does not have to open all conductors to the motor.

- Capacitors containing more than 3 gallons of flammable liquid must be enclosed in vaults or outdoor fenced enclosures. Capacitors must be enclosed, located, or guarded so that persons cannot come into accidental contact or bring conducting materials into accidental contact with exposed energized parts, terminals, or buses associated with them.

- The residual voltage of a capacitor must be reduced to 50 volts or less within one minute after the capacitor is disconnected from the source of supply. The discharge circuit must be either permanently connected to the terminals of the capacitor or capacitor bank, or provided with automatic means of connecting it to the terminals of the capacitor bank on removal of voltage from the line. Manual means of switching or connecting the discharge circuit must not be used.

- A disconnecting means must be provided in each ungrounded conductor for each capacitor bank, unless a capacitor is connected on the load side of a motor-running overcurrent device. The disconnecting means is not required to open all ungrounded conductors simultaneously, and may disconnect the capacitor from the line as a regular operating procedure. The rating of the disconnecting means must not be less than 135 percent of the rated current of the capacitor.

- Some states have classified and adopted special precautions for vehicle service and repair operations, aircraft hangars, gasoline dispensing and service stations, bulk storage plants, finishing area (locations where paints, lacquers, or other flammable finishes are applied), wastewater wells, and oil and gas wells.

- Some states have adopted a variety of specific electrical requirements for the following:
    - places of assembly;
    - theaters;
    - motion-picture studios;
    - motion-picture projectors; and
    - sound recording equipment.

- The bottom of sign and outline lighting enclosures must be at least 16 feet above areas accessible to vehicles, unless protected from physical damage. Other specific clearances for signs and outline lighting systems must be followed.

- For cranes and hoists, the following requirements apply:

    - Where a crane or hoist operates over readily combustible material, the resistors must be placed in a well ventilated cabinet composed of noncombustible material so constructed that it will not emit flames or molten metal.
    - On floor operated overhead cranes a suitable work platform with means of access must be provided, attached to the building structure, or on the overhead crane bridge, giving ready and safe access to electrical control cabinets for service, maintenance, or repair.
    - On every new installation, major replacement, modification, or repair made after 3/15/72, the dimension of the working space in the direction of access to energized parts which are likely to require examination, adjustment, service, or maintenance while energized must be in accordance with §2340.16.
    - All cranes using a lifting magnet must have a magnet circuit switch of the enclosed type with provision for locking in the "open" position. A separate means for discharging the inductive load of the magnet must be provided.
    - Conductors must be enclosed in a raceway or must be Type MC or MI cable, with certain exceptions.
    - Some states have adopted numerous requirements for crane and hoist controls.

- Each welder must have overcurrent protection rated or set at not more than 200 percent of the rated primary current of the welder.

- For data processing systems, the following requirements apply:
    - The branch-circuit conductors to which one or more units of a data processing system are connected to a source of supply must have an ampacity not less than 125 percent of the total connected load.
    - The data processing system may be connected by means of computer or data processing cable or flexible cord and an attachment plug cap or cord-set assembly specifically approved as a part of the data processing system. Separate units may be interconnected by means of flexible cords and cables specifically approved as part of the data processing system. When run on the surface of the floor, they must be protected against physical damage.
    - Power cables, communications cables, and interconnecting cables associated with the data processing equipment are permitted under a raised floor provided the raised floor is of suitable construction, and the branch-circuit supply conductors to receptacles are in rigid metal conduit, intermediate metal conduit, electrical metallic tubing, metal wireway, metal surface raceway with metal cover, flexible metal conduit, liquid-tight flexible metal conduit, mineral-insulated, metal-sheathed cable, metal-clad cable, or Type AC cable, and ventilation in the underfloor area is used for the data processing equipment and data processing area only.

- For electrically driven or controlled irrigation machines. The following requirements apply:
    - Irrigation cable must be secured by approved straps, hangers, or similar fittings so designed and installed as not to injure the cable. Cable must be supported at intervals not exceeding 4 feet.
    - Fittings must be used at all points where irrigation cable terminates. The fittings must be designed for use with the cable and suitable for the conditions of service.
    - All electrical equipment on the irrigation machine, all electrical equipment associated with the irrigation machine, metallic junction boxes and enclosures, and control panels or control equipment that supply or control electrical equipment to the irrigation machine must be grounded. Grounding is not required on machines where the machine is

electrically controlled but not electrically driven, the control voltage is 30 volts or less, and the control or signal circuits are current limited.

- A cord-connected swimming pool filter pump must incorporate an approved system of double insulation or its equivalent, and must be provided with means of grounding only the internal and nonaccessible noncurrent-carrying metal parts of the appliance. The means for grounding must be an equipment grounding conductor run with the power-supply conductors in the flexible cord that is properly terminated in a grounding-type attachment plug having a fixed grounding contact member.
- All electric equipment, including power-supply cords, used with storable swimming pools must be protected by ground-fault circuit interrupters.

- Circuits, systems, and equipment intended to supply power for illumination and special loads, in the event of failure of the normal supply, must be tested periodically on an approved schedule to assure their maintenance in proper operating condition. Where battery systems or unit equipments are involved, including batteries used for starting or ignition in auxiliary engines, the authority having jurisdiction will require periodic maintenance. A written record must be kept of such tests and maintenance. Means for testing all emergency lighting and power systems during maximum anticipated load conditions must be provided. Where emergency lighting is necessary, the system must be so arranged that the failure of any individual lighting element, such as the burning out of a light bulb, cannot leave any space in total darkness. All manual switches for controlling emergency circuits must be in convenient locations. In places of assembly, such as theaters, a switch for controlling emergency lighting systems must be located in the lobby or at a place conveniently accessible thereto, never in a motion picture projection booth or on a stage. The branch circuit overcurrent devices in emergency circuits must be accessible to authorized persons only.

- In electroplating and electrostripping processes, when access to the process while energized is necessary, the entrance door guarding the electrolytic process must be electrically interlocked so that access by employees will be prevented when the voltage exceeds 50 volts DC.

Over 600 Volts, Nominal

General. Conductors and equipment used on circuits exceeding 600 volts, nominal, will comply with all applicable provisions of the OSHA standard.

Enclosure for electrical installations. Electrical installations in a vault, room, closet or in an area surrounded by a wall, screen, or fence, access to which is controlled by lock and key or other equivalent means, are considered to be accessible to qualified persons only. A wall, screen, or fence less than 8 feet (2.44 m) in height is not considered adequate to prevent access unless it has other features that provide a degree of isolation equivalent to an 8-foot (2.44-m) fence. The entrances to all buildings, rooms or enclosures containing exposed live parts or exposed conductors operating at over 600 volts, nominal, will be kept locked or will be under the observation of a qualified person at all times.

Installations accessible to qualified persons only. Electrical installations having exposed live parts will be accessible to qualified persons only and will comply with the applicable provisions of the OSHA standard.

Installations accessible to unqualified persons. Electrical installations that are open to unqualified persons will be made with metal-enclosed equipment or will be enclosed in a vault or in an area, access to

which is controlled by a lock. Metal-enclosed switch-gear, unit substations, transformers, pull boxes, connection boxes, and other similar associated equipment will be marked with appropriate caution signs. If equipment is exposed to physical damage from vehicular traffic, guards will be provided to prevent such damage. Ventilating or similar openings in metal-enclosed equipment will be designed so that foreign objects inserted through these openings will be deflected from energized parts.

Workspace about equipment. Sufficient space will be provided and maintained about electric equipment to permit ready and safe operation and maintenance of such equipment. Where energized parts are exposed, the minimum clear workspace will not be less than 6 feet 6 inches (1.98 m) high (measured vertically from the floor or platform), or less than 3 feet (914 mm) wide (measured parallel to the equipment). The depth will be as required in Table 2. The workspace will be adequate to permit at least a 90-degree opening of doors or hinged panels.

Working space. The minimum clear working space in front of electric equipment such as switchboards, control panels, switches, circuit breakers, motor controllers, relays, and similar equipment will not be less than specified in Table 2 unless otherwise specified in this Chapter. Distances will be measured from the live parts if they are exposed, or from the enclosure front or opening if the live parts are enclosed. However, working space is not required in back of equipment such as deadfront switchboards or control assemblies where there are no renewable or adjustable parts (such as fuses or switches) on the back and where all connections are accessible from locations other than the back. Where rear access is required to work on de-energized parts on the back of enclosed equipment, a minimum working space of 30 inches (762 mm) horizontally will be provided.

TABLE 2 MINIMUM DEPTH OF CLEAR WORKING SPACE IN FRONT OF ELECTRIC EQUIPMENT

Nominal voltage to ground	**Conditions [1]**		
	(a)	**(b)**	**(c)**
	Feet[2]		*Feet*[2]
601 to 2,500	3	4	5
2,501 to 9,000	4	5	6
9,001 to 25,000	5	6	9
25,001 to 75 kV	6	8	10
Above 75 kV	8	10	12

[1] Conditions (a), (b), and (c) are as follows: (a) Exposed live parts on one side and no live or grounded parts on the other side of the working space, or exposed live parts on both sides effectively guarded by insulating material. Insulated wire or insulated busbars operating at not over 300 volts are not considered live parts. (b) Exposed live parts on one side and grounded parts on the other side. Walls constructed of concrete, brick or tile are considered to be grounded surfaces. (c) Exposed live parts on both sides of the workspace (not guarded as provided in Condition (a)) with the operator between.

[2] **NOTE:** For SI units: one foot = 0.3048 m.

Lighting outlets and points of control. The lighting outlets will be so arranged that persons changing lamps or making repairs on the lighting system will not be endangered by live parts or other equipment.

The points of control will be so located that persons are not likely to come in contact with any live part or moving part of the equipment while turning on the lights.

Elevation of unguarded live parts. Unguarded live parts above working space will be maintained at elevations not less than specified in Table 3.

TABLE 3 ELEVATION OF UNGUARDED ENERGIZED PARTS ABOVE WORKING SPACE

Normal voltage between phases	Minimum elevation
601 - 7,500	8 feet 6 inches [1]
7,501 - 35,000	9 feet
Over 35 kV	9 feet + 0.37 inches per kV above 35 kV

[1] **NOTE:** For SI units: one inch = 25.4 mm; one foot = 0.3048 m.

Entrance and access to workspace. At least one entrance not less than 24 inches (610 mm) wide and 6 feet 6 inches (1.98 m) high will be provided to give access to the working space about electric equipment. On switchboard and control panels exceeding 48 inches (1.22 m) in width, there will be one entrance at each end of such board where practicable. Where bare energized parts at any voltage or insulated energized parts above 600 volts are located adjacent to such entrance, they will be guarded.

Vehicular and Mechanical Equipment

Any vehicle or mechanical equipment capable of having parts of its structure elevated near energized overhead lines will be operated so that a clearance of 10 ft. (305 cm) is maintained. If the voltage is higher than 50kV, the clearance will be increased 4 in. (10 cm) for every 10kV over that voltage. However, under any of the following conditions, the clearance may be reduced:

- If the vehicle is in transit with its structure lowered, the clearance may be reduced to 4 ft. (122 cm). If the voltage is higher than 50kV, the clearance will be increased 4 in. (10 cm) for every 10 kV over that voltage.
- If insulating barriers are installed to prevent contact with the lines, and if the barriers are rated for the voltage of the line being guarded and are not a part of or an attachment to the vehicle or its raised structure, the clearance may be reduced to a distance within the designed working dimensions of the insulating barrier.
- If the equipment is an aerial lift insulated for the voltage involved, and if the work is performed by a qualified person, the clearance (between the uninsulated portion of the aerial lift and the power line) may be reduced per the OSHA standard.
- Employees standing on the ground may not contact the vehicle or mechanical equipment or any of its attachments, unless:
- The employee is using protective equipment rated for the voltage; or
- The equipment is located so that no uninsulated part of its structure (that portion of the structure that provides a conductive path to employees on the ground) can come closer to the line than permitted in the OSHA standard.

If any vehicle or mechanical equipment capable of having parts of its structure elevated near energized overhead lines is intentionally grounded, employees working on the ground near the point of grounding

may not stand at the grounding location whenever there is a possibility of overhead line contact. Additional precautions, such as the use of barricades or insulation, will be taken to protect employees from hazardous ground potentials, depending on earth resistivity and fault currents, which can develop within the first few feet or more outward from the grounding point.

Illumination

Employees may not enter spaces containing exposed energized parts, unless illumination is provided that enables the employees to perform the work safely.

Where lack of illumination or an obstruction precludes observation of the work to be performed, employees may not perform tasks near exposed energized parts. Employees may not reach blindly into areas which may contain energized parts.

Confined or Enclosed Work Spaces

When an employee works in a confined or enclosed space (such as a manhole or vault) that contains exposed energized parts, [Company Name] will provide, and the employee will use, protective shields, protective barriers, or insulating materials as necessary to avoid inadvertent contact with these parts. Doors, hinged panels, and the like will be secured to prevent their swinging into an employee and causing the employee to contact exposed energized parts.

Conductive Materials and Equipment

Conductive materials and equipment that are in contact with any part of an employee's body will be handled in a manner that will prevent them from contacting exposed energized conductors or circuit parts. If an employee must handle long dimensional conductive objects (such as ducts and pipes) in areas with exposed live parts, [Company Name] will institute work practices (such as the use of insulation, guarding, and material handling techniques) which will minimize the hazard.

Portable Ladders

Portable ladders will have nonconductive siderails if they are used where the employee or the ladder could contact exposed energized parts.

Conductive Apparel

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

Housekeeping Duties

Where live parts present an electrical contact hazard, employees may not perform housekeeping duties at such close distances to the parts that there is a possibility of contact, unless adequate safeguards (such as insulating equipment or barriers) are provided. Electrically conductive cleaning materials (including conductive solids such as steel wool, metalized cloth, and silicon carbide, as well as conductive liquid

solutions) may not be used in proximity to energized parts unless procedures are followed which will prevent electrical contact.

Lockout and Tagging of Circuits

This portion of the plan has been created to maintain a written copy of procedures to be followed during work on or near enough to exposed de-energized parts of conductors and electric equipment to expose employees to any electrical hazard they present. The requirements apply to all of [Company Name]'s construction job sites.

This written procedure includes procedural steps for each one of the following:

- de-energizing equipment,
- application of locks and tags,
- verification of de-energized condition, and
- re-energizing equipment.

While any employee is exposed to contact with parts of fixed electric equipment or circuits which have been de-energized, the circuits energizing the parts will be locked out or tagged or both according to the requirements of this written plan.

Conductors and parts of electric equipment that have been de-energized but have not been locked out or tagged according to these procedures will be treated as energized parts.

The requirements must be followed in the order in which they are presented.

[Company Name] maintains this written copy of procedures RSO's Office and makes it available for inspection by employees and the Assistant Secretary of Labor (the head of OSHA) and his or her authorized representatives.

De-energizing Equipment

Safe procedures for de-energizing circuits and equipment will be determined by Site Supervisor before circuits or equipment are de-energized.

The circuits and equipment to be worked on will be disconnected from all electric energy sources. Control circuit devices, such as push buttons, selector switches, and interlocks, may not be used as the sole means for de-energizing circuits or equipment. Interlocks for electric equipment may not be used as a substitute for lockout and tagging procedures.

Stored electric energy which might endanger personnel will be released. Capacitors will be discharged and high capacitance elements will be short-circuited and grounded, if the stored electric energy might endanger personnel.

If the capacitors or associated equipment are handled in meeting this requirement, they will be treated as energized.

Stored non-electrical energy in devices that could re-energize electric circuit parts will be blocked or relieved to the extent that the circuit parts could not be accidentally energized by the device.

Application of Locks and Tags

A lock **and** a tag will be placed on each disconnecting means used to de-energize circuits and equipment on which work is to be performed. Employees can obtain these locks and tags from Site Supervisor.

The lock will be attached so it prevents persons from operating the disconnecting means unless they resort to undue force or the use of tools.

Each tag will contain a statement prohibiting unauthorized operation the disconnecting means and removal of the tag.

If a lock cannot be applied or if [Company Name] can demonstrate that tagging procedures will provide a level of safety equivalent to that obtained by the use of a lock, a tag may be used without a lock.

If a tag is used without a lock, the tag will be supplemented by at least one additional safety measure that provides a level of safety equivalent to that obtained by the use of a lock. Examples of additional safety measures include the removal of an isolating circuit element, blocking of a controlling switch, or opening of an extra disconnecting device.

A lock may be placed without a tag only under the following conditions:

- Only one circuit or piece of equipment is de-energized, and
- The lockout period does not extend beyond the work shift, and
- Employees exposed to the hazards associated with re-energizing the circuit or equipment are familiar with this procedure.

Use of either of these exceptions must be approved by Site Supervisor

Verification of De-energized Condition

The following requirements must be met before any circuits or equipment can be considered and worked as de-energized:

1. A qualified person will operate the equipment operating controls or otherwise verify that the equipment cannot be restarted.
2. A qualified person will use test equipment to test the circuit elements and electrical parts of equipment to which employees will be exposed and will verify that the circuit elements and equipment parts are de-energized.

The test will also determine if any energized condition exists as a result of inadvertently induced voltage or unrelated voltage backfeed even though specific parts of the circuit have been de-energized and presumed to be safe. If the circuit to be tested is over 600 volts, nominal, the test equipment will be checked for proper operation immediately before and immediately after this test.

Only authorized employees that have been trained and designated as qualified persons are authorized to perform duties in that capacity.

Re-Energizing Equipment

The following requirements will be met, in order given, before circuits or equipment are re-energized, even temporarily:

1. A qualified person will conduct tests and visual inspections, as necessary, to verify that all tools, electrical jumpers, shorts, grounds, and other such devices have been removed, so that the circuits and equipment can be safely energized.
2. Employees exposed to the hazards associated with re-energizing the circuit or equipment will be warned to stay clear of circuits and equipment.
3. Each lock and tag will be removed by the employee who applied it or under his or her direct supervision. However, if this employee is absent from the workplace, then the lock or tag may be removed by a qualified person designated to perform this task provided that the employee who applied the lock or tag is not available at the workplace, and the employee is aware that the lock or tag has been removed before he or she resumes work at that workplace.
4. There will be a visual determination that all employees are clear of the circuits and equipment.

See the Lockout Tagout Program for complete details.

Additional State Requirements - High-Voltage Electrical Installations and Equipment (>600 volts)

1. All switches, circuit breakers, and other control devices must be located or marked to indicate clearly the equipment controlled by them.

2. No building or premises may be supplied at more than one service point, except under certain conditions.

3. Overhead or underground services or service entrance conductors must not supply one building through another.

4. Open service entrance conductors must be attached to the building at one point only, and must be suitably guarded against accidental contact. The length of open conductor between such point of attachment and the point where the conductors enter the building or the raceway must be as short as practicable, but in no case greater than 3 feet. There must be a conspicuous and permanent "HIGH VOLTAGE" sign placed on the outside immediately adjacent to the point of attachment.

5. Conductors other than service entrance conductors and grounding conductors must not be installed in service entrance raceways.

6. Service switching devices must simultaneously disconnect all ungrounded conductors supplied through the service entrance conductors, with certain exceptions.

7. Surge and lightning protection equipment must be connected to the source side of switching devices.

8. Service entrance conductors must have a protective device in each ungrounded conductor on the load side of or as an integral part of the service entrance switch. The protective device must be capable of detecting and interrupting all values of current in excess of its minimum trip setting or minimum melting point, which can occur at its location.

9. Each set of service entrance conductors must have a service entrance switch which is group operated to open each set of ungrounded service entrance conductors, and it must be capable of being padlocked in the open position.

10. A means must be provided to isolate the load and each overcurrent protective device in the service entrance conductors from all sources of supply.

11. Two or more feeders or sets of service entrance conductors, which can be operated in parallel must be provided with a suitable means to isolate each set or feeder from all others. Operation of paralleling switches must be restricted to qualified and authorized persons only. A written switching procedure must be made available to and followed by such personnel.

12. Each feeder must be arranged so that it can be isolated from all sources of supply except that isolating switches are not required for taps.

13. If a high-voltage system is to be grounded, a grounding connection must be made to the system neutral if available. This connection must be made at or on the source side of the service entrance equipment. Grounding connections must be arranged to prevent objectionable current in the equipment grounding conductor during normal system operation. Grounding equipment and connections must have ample thermal capacity to carry safely any current, which may be imposed on them by the system. Grounding connections must be clamp type, pressure type, welded, or other approved type, and grounding electrodes must be of corrosion-resistant material and of adequate size, number, and location to effectively ground the system. Local piping systems, well casings, building frames, and the like must not be used as system grounding electrodes unless their resistance to ground will be maintained low enough to insure effective grounding.

14. Effective grounding of all equipment must be assured by the use of an equipment grounding conductor, where feasible, such that the path to ground will have impedance sufficiently low to limit the potential above ground, and to facilitate the operation of the overcurrent or ground fault detecting devices in the system. Where the conduit is intended to function as the equipment grounding conductor, approved threaded couplings, hubs, and joints, or double locknuts and bushings with bonding jumpers are required. Unless grounding conductors are an integral part of the cable, they must be no smaller than No. 6 AWG for mechanical strength. Grounding conductors must be of corrosion-resistant approved material, or must be suitably protected against corrosion, and must have thermal capacity for the conditions imposed on them by the system.

15. Portable high-voltage equipment must be supplied from a system having its neutral grounded through an impedance. Where a delta-connected high-voltage system is used to supply portable equipment, a system neutral must be derived. The product of the maximum ground fault current and the impedance of the ground return conductor must be such as to limit the voltage developed between the portable equipment frame and ground (by the flow of ground fault current) to not more than 100 volts.

16. Conductors of high-voltage and low-voltage systems must not occupy the same wiring enclosure or pull and junction boxes except in approved switchgear and control assemblies.

17. Raceways, except those used for exposed work and having a removable cover, must first be installed as a complete raceway system without the conductors. Pull wires, if used, must not be

installed until the raceway system is in place. Approved pulling compound may be used as a lubricant in inserting conductors in raceways. Cleaning agents or lubricants having a deleterious effect on conductor coverings must not be used.

18. Conductors must not be bent to a radius less than 8 times the overall diameter for non-shielded conductors or 12 times the diameter for shielded or lead-covered conductors during or after installation.

19. Pull boxes must be of sufficient size and design to accommodate the installation and maintenance of all conductors installed in them without damaging the insulation on any conductor. Where permanent barriers are installed in a box, each section must be considered as a separate box. One or more sides of a pull box must be removable. Horizontal conductors of 6 feet or more in length inside the box must be supported.

20. Pull boxes must be made of material inherently resistant to corrosion or must be suitably protected, both internally and externally, by enameling, galvanizing, plating, or other equivalent means. Suitable bushings, shields, or fittings having smooth rounded edges must be provided where conductors pass through partitions and at other locations where necessary. Pull boxes must be so installed that the wiring is accessible without removing any part of the building. Pull boxes must be of a type approved for the respective location in which they are installed.

21. Covers for pull and junction boxes used in high-voltage raceway systems must be labeled "HIGH VOLTAGE" in block letters at least 1/2 inch high.

22. Some state’s rules specify the minimum spacing, in inches, between bare energized parts and adjacent surfaces.

23. Bus runs having sections located both inside and outside of a building must provide a vapor seal at the building wall to prevent interchange of air between indoor and outdoor sections unless forced cooled. Fire barriers must be provided at walls where fire separation is required.

24. Flexible or expansion connections must be provided in long, straight runs of bus to allow for temperature expansion or contraction, or where the bus run crosses building vibration insulation joints. All conductor termination and connection hardware must be accessible for installation, connection, and maintenance. Where bus enclosures terminate at machines cooled by flammable atmospheres, seal-off bushings, baffles, or other means must be provided to prevent accumulation of flammable gas in the bus enclosure.

25. Switching devices or disconnecting links provided in the bus run must have the same momentary rating as the bus. Disconnecting links must be plainly marked to be removable only when the bus is de-energized. Switching devices which are not load break must be interlocked to prevent operation under load, and disconnecting link enclosures must be interlocked to prevent access to energized parts.

26. Each bus run must be provided with a permanent nameplate listing rated voltage, rated continuous current, rated frequency, rated impulse withstand voltage, rated 60-cycle withstand voltage (dry), rated momentary current, and the manufacturer's name and address.

27. Drain plugs, filter drains, or similar methods must be provided to remove condensed moisture from low points in bus runs.

28. Secondary control devices and wiring which are provided as part of the metal-enclosed bus run must be isolated by grounded metal barriers from all primary circuit elements with the exception of short lengths of wire, such as at instrument transformer terminals.

29. Continuous rigid cable supports may extend vertically through floors and platforms if the cable support is totally enclosed where it passes through the floor or platform opening and for a distance of 6 feet above the floor or platform to provide protection from physical damage.

30. A working space of 24 inches minimum must be maintained on one side of each rigid cable support. A minimum vertical clearance of 6 inches must be maintained from the top of the rigid cable support to all ceilings, beams, and other similar obstructions exceeding 24 inches, measured along the length of the cable support.

31. Metal-clad cable may be installed on metal racks, trays, troughs, or continuous rigid cable supports which are effectively grounded. Each cable must be supported at intervals not exceeding 6 feet and within 2 feet of every box or fitting, and each cable must be attached to the support at intervals of not more than 10 feet horizontally and 2 feet vertically.

32. For metal-clad cable, the flexible metal enclosure must provide the equivalent mechanical strength of not less than .025 inch of steel.

33. Cable supplying energy to mobile equipment or machinery must be IPCEA Type SHD-GC or other approved portable type.

34. Suitable fencing, barriers, or other means must be provided to prevent access of other than authorized and qualified personnel to temporary wiring.

35. Temporary wiring must not be used for longer than 90 days, except for construction purposes in which case it may be used for up to one year. All temporary wiring must be removed immediately upon the completion of construction or purpose for which the wiring was installed; or upon the expiration of the time limit specified above.

36. When a cable is suspended by its conductor(s), the total suspended weight must not be greater than one-seventh of the ultimate tensile strength of the supporting conductor(s). Cable supports must be designed to carry adequately the weight of the cable. Separate supports must be provided for the sheath of unarmored lead-sheathed cable. When a cable is suspended by wire armor or messenger, the total suspended weight must not be greater than one-fifth of the ultimate tensile strength of the armor or messenger. When wire mesh mechanical holding devices are used, either as the sole means of support or in conjunction with other means of support, the total suspended weight on each device and the distance between devices must not exceed recommendations of the cable and wire mesh manufacturers.

37. Vault interior walls must be of assemblies of materials approved for not less than one-hour, non-combustible fire-resistive construction. Door openings to vaults must be protected by approved one-hour rated fire door and frame assemblies. Vault ceiling access opening covers or grates weighing less than 100 pounds must be securely fastened in place. Openings must be a minimum

of 26 inches in diameter or 24 inches by 26 inches in size. Safe access must be provided from the opening to the floor or other working surface. All ventilating flues or ducts must be of noncombustible construction. Ventilating openings must not be through the vault door, except where the door opens to outdoors. Vaults must be provided with adequate ventilation. Where drainage from sumps in vaults is to a sewage system, a suitable trap must be installed capable of preventing the entrance of sewer gas into the vault. Pipelines such as sewer, water, gas, oil, etc., must be installed outside the vault enclosure unless they constitute an integral part of operation of the equipment installed in the vault. Where it is impracticable for such lines to be installed outside the vault, they must contain no appurtenances (such as valves, faucets, or fittings) inside the vault that require maintenance.

38. In vaults containing oil-filled equipment, walls, roofs, and floors (other than when laid on earth) must be of assemblies of materials approved for three-hour non-combustible fire-resistive construction. Door openings to vaults must be protected by approved three-hour rated fire doors and frame assemblies. A door sill or curb of sufficient height (at least 4 inches) to confine within the vault the oil from the largest oil-filled equipment must be provided. Ventilating openings must be located as far away as practicable from building doors, windows, fire escapes, and combustible material. All openings from vaults into buildings, except approved fire door openings and viewing ports, must be connected to a non-combustible duct or flue leading directly to the exterior, or must be equipped with approved three-hour rated fire doors or fire dampers. Ducts and flues must not be connected with any other ventilating or air distribution system, except that ventilation may be supplied from conditioned air systems into the vault, provided approved three-hour rated fire doors or fire dampers are installed in each opening. Water-type fire sprinkler systems are prohibited.

39. Electrical equipment containing flammable gas or more than 10 gallons of flammable oil per unit must not be installed indoors except in a vault or a separate building. Neither the building nor its contents may present a fire hazard to any other building or property, and the building must be used only for supplying electrical service.

40. Electrical equipment may be installed on the roof of a building, provided that the building structure has sufficient strength to support the entire installation, and where oil-insulated equipment is used, the roof must be of two-hour, non-combustible fire resistive construction, and a curb high enough to contain the oil from the largest oil-filled equipment (at least 6 inches) must be provided. A drain must be provided from the curbed enclosure to carry any oil away from the building.

41. Permanent and conspicuous warning signs must be posted on all doors or gates that provide access to enclosures containing exposed energized parts and conductors. The signs must be legible at 12 feet and must read substantially as follows: "WARNING—HIGH VOLTAGE—KEEP OUT."

42. The height of fenced or walled enclosures must be at least 8 feet, or floor to ceiling if the ceiling is less than 8 feet, or 10 feet where any exposed energized part is more than 8 feet above the ground (unless the energized part is located more than 5 feet horizontally from the enclosure). The enclosure must be constructed so that it cannot be readily climbed. The size and location of openings in fences or similar enclosures must be such that persons are not liable to come into accidental contact with energized parts, or to bring conducting objects into contact with them. The gate or door in the enclosure must have minimum dimensions of 2 feet 6 inches wide and 6 feet 6

inches high, and must be readily operable. No reduction in enclosure height at the door or gate is permitted. Metal gates or doors must be grounded or bonded to a grounded metal enclosure.

43. Where oil-filled apparatus is installed within an enclosure adjacent to combustible material or combustible buildings, provision must be made to confine within the enclosure the largest amount of oil contained in a single piece of apparatus. Pressure relief devices of oil-filled apparatus must be designed and located to minimize the hazard to persons from escaping oil.

44. The inside measurement of any manhole, subway, chamber, or underground room containing any electrical wiring or equipment must be at least 4 feet between the end walls and between the side walls, or if circular in shape, at least 4 feet in diameter inside measurement, and at least 6-1/2 feet at all points between the floor and the top or ceiling. Any access opening to outer air must be at least 26 inches if circular in shape, or at least 24 inches by 26 inches clear measurement if rectangular in shape.

45. The ampacities of conductors must be as shown in IPCEA Publication No. P46-426, Volumes I and II, "Power Cable Ampacities," published September 1, 1966 by the Insulated Power Cable Engineers Association.

46. Underground ducts of rigid metallic steel conduit, Schedule 80 PVC conduit, or equivalent, containing cables operating at a potential above 35,000 volts, must be installed at a depth of at least 36 inches, with certain exceptions. A lesser depth is permitted for ducts containing cables operating at 35,000 volts or less, if the duct is rigid metallic conduit, Schedule 80 PVC conduit, or equivalent, or if the duct has a layer of concrete at least 3 inches thick above the duct.

47. Direct buried cables or cables in flexible nonmetallic enclosures must be installed at a depth of at least 36 inches. Lesser depths may be employed if the cable is armored with a minimum of No. 12 BWG steel wire closely wound or two layers of steel tape each at least 0.020 inch thick, or if the cable is protected by a layer of concrete at least 3 inches thick above the cable.

48. Some state’s rules contain specific, detailed requirements for:
    - pole- and structure-supported risers;
    - interrupter switches;
    - power fuses;
    - expulsion-type distribution cutouts and fuse links;
    - oil-filled cutouts;
    - metal-enclosed power switchgear and industrial control assemblies;
    - transformers;
    - rotating machinery and its control apparatus;
    - capacitors;
    - resistors and reactors;
    - minimum clear distances when performing work with live line tools;
    - fall protection;
    - aerial lift equipment and derrick trucks, cranes, and other lifting equipment;
    - material handling related to electrical equipment;
    - work on or in proximity to overhead high voltage lines;
    - metal tower construction;
    - the washing of insulators supporting energized conductors or equipment;
    - tubular steel poles;

- work on or in proximity to underground high-voltage cables, conductors, or equipment;
- work on or in proximity to conductors and equipment in high-voltage stations or switchyards;
- access and workspaces at electric utilities;
- operations in proximity to overhead lines;
- line clearance tree trimming operations; and
- signs and outline lighting exceeding 600 volts.

49. The covers of all terminal enclosures must be posted with a permanent "HIGH VOLTAGE" warning sign having letters at least 1/2 inch high.

50. Where installed in buildings, cables energized above 35,000 volts must be encased in at least 3 inches of concrete or equivalent fire-resistant material.

51. Cables must be labeled at all circuit terminals, sectionalizing points, vaults, rooms, etc. The labels must, as a minimum, show phase and circuit designation and nearest sectionalizing points.

52. All cables normally operated above 5,000 volts must have insulation shielding, except that shielding is not required for series street lighting circuits operating at less than 7,500 volts. Metallic shielding (or each section thereof) at terminations must be effectively grounded.

53. Circuits must be labeled at all accessible points with suitable warning signs stating the locations from which feedback may occur because of circuits energized by manually or automatically operated equipment, circuit configurations or connections, circuits feeding a load which can be connected to auxiliary generating equipment, or circuits feeding synchronous motor-driven generator sets which can be energized by reverse power flow from batteries or other sources.

54. Provision must be made to observe the position of the blades of disconnecting switches. If viewing windows are provided, they must be shatterproof, of adequate size, and suitably located to permit viewing of all contacts.

55. Disconnecting switches must have a permanent and legible nameplate showing the continuous current rating, maximum voltage rating, and momentary current rating. Suitable barriers must be installed on both sides of each pole of disconnecting switches mounted indoors.

56. Unless interlocked so that they cannot be opened under load, disconnecting switches must be provided with permanent warning signs having letters at least 2 inches high and reading as follows: "Warning—Disconnecting Switch—Do Not Open Under Load."

57. Circuit breakers must comply with all the provisions of American National Standard ANSI/IEEE C37.04--1979, Rating Structure for AC High-Voltage Circuit Breakers Rated on a Symmetrical Current Basis.

58. Circuit breakers must:
    - have an accessible mechanical or other approved means for manual tripping, independent of control power;
    - be release free (trip free);
    - have positive means to prevent unintended operation during inspection or maintenance;

- open and close the main contacts independent of the speed of the manual operation, when operated manually while energized; and
- be equipped with a mechanical position indicator to show the open or closed position of the main contacts.

59. Circuit breakers must have a permanent and legible nameplate that includes the manufacturer's name or trademark, manufacturer's type or identification number, continuous current rating, interrupting rating in MVA or amperes, and maximum voltage rating.

60. Means must be provided to isolate each circuit breaker or circuit breaker installation from all sources of potential. The isolating means must provide a visible gap in the electrical circuit adequate for the operating voltage. Isolating or disconnecting switches (with no interrupting rating) must be mechanically interlocked with the circuit breaker or provided with prominently displayed caution signs to prevent switching load current.

61. Automatic circuit reclosers must comply with all the provisions of American National Standard ANSI/IEEE C37.60-1981, Requirements for Overhead, Pad Mounted, Dry Vault, and Submersible Automatic Circuit Reclosers and Fault Interrupters for AC Systems.

62. Lightning arresters (e.g., expulsion arresters, valve arresters with external series gap, etc.) that produce or expel ionized gases to the atmosphere during normal operation must not be used in flammable atmosphere locations. All parts of the arrester must be at least 10 feet above ground, unless enclosed in such a way as to prevent access to unauthorized persons. Connections to lightning arresters must be adequate to carry the discharge current, but must not be smaller than No. 6 AWG copper or equivalent. Lightning arresters must have a permanent and legible identification including the name of the device, manufacturer's name and/or trademark, manufacturer's type and identification number, and voltage rating of the arrester.

63. On portable and/or mobile high-voltage power distribution and utilization equipment, the metallic enclosures covering the terminals of the power cable and the energized switching and control parts must be marked "DANGER--HIGH VOLTAGE."

64. Electrical controls for a tunnel ventilation system must be so arranged that the air flow can be reversed.

65. Switch or contactor enclosures in tunnels must not be used as junction boxes or raceways for conductors feeding through or tapping off to other switches, unless special designs are used to provide adequate space for this purpose.

66. Portable ladders may be used to provide access to the working space around electrical equipment installed on platforms, balconies, mezzanine floors, or in attic or roof rooms or spaces.

67. In the table showing the minimum depth of clear working space about electrical equipment, Some states have modified the federal requirements by altering the voltage ranges. Specifically, the voltage of 9,000 has been reduced to 7,500.

68. Employers must furnish such safety devices and safeguards as may be necessary to make the employment or place of employment as free from danger to the safety and health of employees as the nature of the employment reasonably permits. The employer must examine or test each safety

device at such intervals as may be reasonably necessary to ensure that it is in good condition and adequate to perform the function for which it is intended. Any device furnished by the employer found to be unsafe must be repaired or replaced.

69. Employees must be instructed to inspect each safety device, tool, or piece of equipment each time it is used and to use only those in good condition. The employer must require the use of safety devices and safeguards where applicable.

70. Except for replacing fuses, operating switches, or other operations that do not require an employee to contact energized high-voltage conductors or energized parts of equipment, clearing "trouble" or in emergencies involving hazard to life or property, no such employee may be assigned to work alone.

71. While work is being done on any exposed conductors or exposed parts of equipment connected to high-voltage systems, a qualified electrical worker, or an employee in training, must be in close proximity at each work location to act primarily as an observer for the purpose of preventing an accident, and to render immediate assistance in the event of an accident.

72. Work on or from structures must be discontinued when adverse weather, such as high winds, ice on structures, or the progress of an electrical storm in the immediate vicinity, makes the work hazardous, except during emergency restoration procedures.

73. When work is performed over or near water and when danger of drowning exists, suitable protection must be provided.

74. Whenever rubber gloves are used, they must be protected by outer canvas or leather gloves. Insulating equipment fabricated of material other than rubber must provide electrical and mechanical protection at least equal to that of rubber equipment.

75. Employers are responsible for the periodic visual and electrical re-testing of all insulating gloves, sleeves, and blankets, according to ASTM standards. Gloves, sleeves, and blankets must be marked to indicate compliance with the re-test schedule and must be marked with either the date tested, or the date the next test is due.

76. When not being used, insulating gloves and sleeves must be stored in glove bags or suitable containers. Insulating blankets must be stored in a canister or other means that offers equivalent protection.

77. Insulating equipment must be stored away from direct sunlight, steampipes, radiators, and other sources of excessive heat and must be protected from physical damage. Gloves, sleeves, and blankets must not be folded while in storage; however, blankets may be rolled for storage.

78. Insulating equipment must be visually inspected for defects and damage, and must be cleaned prior to use each day.

79. Rubber gloves must be air and water tested at the beginning of each work period and at any other time when the glove's condition is in doubt. The gloves must be visually examined over their entire inner and outer surface for any defects (i.e., burns, cuts, cracks, punctures and weak spots), and must have the cuff stretched to detect abrasions and weak spots.

80. Portable conductive ladders must be legibly marked with signs reading “Caution--Do Not Use Near Energized Electrical Equipment” or equivalent wording.

81. Live line tools must be visually inspected for defects before use each day. Tools to be used must be wiped clean and if defects are indicated the tools must not be used.

82. Hydraulic and pneumatic tools used on or near exposed energized conductors or equipment must use non-conductive hoses having adequate strength for normal operating pressures. In addition, such pneumatic tools must have an accumulator on the compressor to collect moisture. Hydraulic fluids used for the insulated sections of derrick trucks, aerial lifts, and hydraulic tools that are used on or near energized conductors or equipment must be of the insulating type.

83. Lines used for emergency rescue such as lowering a person to the ground must have a minimum breaking strength of 2650 pounds and must be readily available on the job site.

84. Employers must ensure that each employee who is exposed to the hazards of flames or electric arcs does not wear clothing made from acetate, nylon, polyester, or rayon, either alone or in blends, unless treated with flame retardant.

85. When working near energized lines or equipment, aerial lift trucks must be grounded or barricaded and considered as energized equipment, or the aerial lift truck boom must be insulated for the voltage being worked on.

86. During construction, operation, or maintenance of power transmission and distribution systems, employees operating equipment such as cranes, booms, or derricks must not be permitted to stand on a grounded surface, other than the equipment itself, when such equipment is operated within 6 feet of exposed energized high voltage conductors or equipment. During movement of such cranes, booms, or derricks, employees on the ground must be required to stay clear of the equipment. Also, wire rope or chains, except slings, must not be used to raise or lower transformers, poles or any other material within 6 feet of exposed energized high voltage conductors or equipment.

87. Before contacting the high voltage side of deenergized transformer(s), or conductor(s) connected thereto, all possible sources of backfeed must be eliminated by disconnecting or grounding the high voltage side, or disconnecting or short circuiting the low voltage side.

88. The owner, agent, or employer responsible for the operations of equipment must post and maintain in plain view of the operator and driver on each crane, derrick, power shovel, drilling rig, hay loader, hay stacker, pile driver, or similar apparatus, a durable warning sign legible at 12 feet reading: "Unlawful To Operate This Equipment Within 10 Feet Of High-Voltage Lines of 50,000 Volts Or Less." In addition, the following statement in small lettering must be provided on the warning sign: "For Minimum Clearances of High-Voltage Lines In Excess of 50,000 Volts.

Training

Training is provided to ensure that employees are familiar with the requirements of this plan. This training is provided to employees at the time of hire and annually thereafter.

RORY B. BARTON , RSO is responsible for conducting training.

The training program addresses the required written elements for electrical safety for:

- The assured equipment grounding conductor program.
- Lockout and tagging procedures to be used when working on exposed de-energized parts.

Training for Unqualified Employees

Training for Unqualified Employees is general electrical safety precautions to provide an awareness and understanding of electrical hazards.

Electrical Safety Rules for Non-Qualified Workers:

1. Do not conduct any repairs to electrical equipment
2. Report all electrical deficiencies to your supervisor
3. Do not operate equipment if you suspect and electrical problem
4. Water and electricity do not mix.
5. Even low voltages can kill or injure you
6. Do not use cords or plugs if the ground prong is missing
7. Do not overload electrical receptacles

Training for Qualified Employees

Training for Qualified Employees includes specific equipment procedures and requirements of applicable OSHA standards.

Program Evaluation

The Electrical Safety Plan is evaluated and updated annually by RSO to ensure the continued effectiveness of the program.

GROUNDING CONDUCTOR PROGRAM

Purpose

It is the policy of [Company Name] to establish and implement an assured equipment grounding conductor program on construction sites covering all cord sets, receptacles which are not a part of the permanent wiring of the building or structure, and equipment connected by cord and plug which are available for use or used by employees. This policy shall apply to all construction sites not equipped with ground fault circuit interrupters in accordance with applicable OSHA standards.

The Company will not make available or permit the use by employees of any equipment which has not met the requirements of this program.

A written description of the program including the specific procedures adopted by the Company, will be available at the job site for inspection & copying by the Assistant Secretary & any affected employee.

Administrative Duties

We have designated the following competent person(s) to implement the program: [RSO Name], RSO. The competent person(s) are responsible for developing and maintaining this written Grounding Conductor Program.

They are qualified, by appropriate training and experience that is commensurate with the complexity of the plan, to administer and oversee our Grounding Conductor Program and conduct the required evaluations of plan effectiveness.

Supervisor Responsibilities

Supervisors are designated as competent persons to implement the assured equipment grounding conductor program. Supervisors will be responsible and accountable for the following:

- Each cord set, attachment cap, plug and receptacle of cord set and any equipment connected by cord and plug, except cord sets and receptacles which are fixed and not exposed to damage, shall be visually inspected before each day's use for external defects, such as deformed or missing pins, or insulation damage, and for indication of possible internal damage. Equipment found damaged or defective may not be used until repaired.
- Supervisors are responsible for tests on all cord sets, receptacles which are not a part of the permanent wiring of the building or structure, and cord and plug connected equipment repaired to be grounded. Tests shall be documented on the log for assured equipment grounding conductor program and shall be on the job site for inspection by OSHA officials and any affected employee. Equipment that does not meet prescribed test shall not be put into service. The following tests shall be performed:
    - All equipment grounding conductors shall be tested for continuity and shall be electrically continuous.
    - Each receptacle and attachment cap or plug shall be tested for correct attachment of the equipment grounding conductor. The equipment grounding shall be connected to its terminal.

Equipment Grounding Conductor Inspection

Each cord set, attachment cap, plug and receptacle of cord sets, and any equipment connected by cord and plug, except cord sets and receptacles which are fixed and not exposed to damage, are visually inspected by Site Supervisor before each day's use for external defects, such as deformed or missing pins or insulation damage, and indications of possible internal damage.

Equipment found damaged or defective is not to be used until repaired, and is to be removed from service immediately by the person finding it and handed over to Site Supervisor.

Equipment Grounding Conductor Testing

The following tests are performed on all cord sets, receptacles which are not a part of the permanent wiring of the building or structure, and cord- and plug-connected equipment required to be grounded:

All equipment grounding conductors are tested for continuity and are electrically continuous.

Each receptacle and attachment cap or plug is tested by (enter your answer) for correct attachment of the equipment grounding conductor. The equipment grounding conductor is connected to its proper terminal.

All required tests are performed:

- Before first use.
- Before equipment is returned to service following any repairs.
- Before equipment is used after any incident which can be reasonably suspected to have caused damage (for example, when a cord set is run over).
- At intervals not to exceed 3 months, except that cord sets and receptacles which are fixed and not exposed to damage will be tested at intervals not exceeding 6 months.

COMELCO, INC. does not provide or permit employees to use any equipment which has not met the requirements of this program.

Colored plastic or vinyl electrical tape is placed on one or both ends of cords and cord- and plug-connected equipment to denote the month that the tests were performed. As an easy reminder of the color of the tape to place on the newly tested cord, remember the color for the start of each calendar quarter by the season:

- White in January for Winter
- Green in April for Spring
- Red in July for Summer, or the 4th of July
- Orange in October for Fall, or pumpkins.

Then add:

- Yellow for the second month in each quarter
- Blue for the third month of each quarter.

Assured Equipment Grounding Conductor Program Color Code			
Month #	Month Tested	Color of tape(s) to apply to cord	
1	January	White	
2	February	White +	Yellow
3	March	White +	Blue
4	April	Green	
5	May	Green +	Yellow
6	June	Green +	Blue
7	July	Red	
8	August	Red +	Yellow
9	September	Red +	Blue
10	October	Orange	
11	November	Orange +	Yellow
12	December	Orange +	Blue

Installation

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

- Installation - Equipment grounding conductors shall be installed as follows:
  - All 120 volt, single phase, 15- and 20- ampere receptacles shall be of the grounding type and their contacts shall be grounded by connection to the equipment grounding conductor of the circuit supply the receptacle in accordance with the applicable requirements of the National Electrical Code.
  - All 120 volt cord sets (extension cords) shall have an equipment grounding conductor which shall be connected to the grounding contacts of the connector(s) on each end of the cord.
  - The exposed concurrent-carrying metal parts of the 120 volt cord and plug-connected tools and equipment that are likely to become energized shall be grounded in accordance with the applicable requirements of the National Electrical Code.
- Visual Inspection
  - Employees shall be instructed to visually inspect receptacle, flexible cord sets (extension cords), except those that are fixed and not exposed to damage, and equipment connected by cord and plug before each day's use for external defects such as deformed or missing pins or insulation damage and for indication of possible internal damage. Where there is evidence of damage, the damaged item shall be taken out of service and tagged until tested and any required repairs have been made.
- All 120 volt, single phase, 15 and 20- ampere receptacles which are not a part of the permanent wiring of the building or structure, 1220 volt flexible cord sets, and 120 volt cord and plug connected equipment required to be grounded shall be tested as follows:

- All equipment grounding conductors shall be tested for continuity and shall be electrically continuous.
- Each receptacle and attachment ca or plug shall be tested or correct attachment of the equipment grounding conductor. The equipment grounding conductor shall be connected to its proper terminal.

Recordkeeping

Tests performed as required in this program are recorded. The test records identify each receptacle, cord set, and cord- and plug-connected equipment that passed the test, and indicate the last date it was tested or the interval for which it was tested. The RSO is responsible for maintaining these records.

This record is kept by means of an inspection log and color coding. This log is maintained until replaced by a more current record. The record is made available on the job site for inspection by OSHA and any affected employee.

LOCKOUT TAGOUT (CONTROL OF HAZARDOUS ENERGY)

Purpose

The following procedure is provided for use in both lockout and tagout programs. This procedure may be used when there are limited number or types of machines or there is a single power source. For more complex systems, a more comprehensive procedure will need to be developed, documented, and utilized.

Lockout is the preferred method of isolating machines or equipment from energy sources. This procedure establishes the minimum requirements for the lockout of energy isolating devices whenever maintenance or servicing is done on machines or equipment. It shall be used to ensure that the machine or equipment is stopped, isolated from all potentially hazardous energy sources, and locked out before employees perform any servicing or maintenance where the unexpected energization or start-up of the machine or equipment or release of stored energy could cause injury such as minor to serious shock, burns (chemical or thermal), cuts, or abrasions.

Administrative Duties

[RSO Name] has overall responsibility for coordinating safety and health programs in this company. He is the person having overall responsibility for the Lockout/Tagout Program. [RSO Name] will review and update the program, as necessary. Copies of the written program may be obtained in the RSO's office.

All employees are required to comply with the restrictions and limitations imposed upon them during the use of lockout. The authorized employees are required to perform the lockout in accordance with this procedure. Servicing is to be done only by trained, authorized employees. Each new or transferred affected employee and other employees whose work operations are or may be in the area shall be instructed in the purpose and use of the lockout or tagout procedures. All employees, upon observing a machine or piece of equipment which is locked out to perform servicing or maintenance, shall not attempt to start, energize, or use the machine or equipment.

Contractors are required to utilize this company's procedure except when the contractor can demonstrate that their current lockout procedure affords the same level of safety as [Company Name]' procedure.

Basic Rules for Using Lockout or Tagout System Procedure

All equipment shall be locked out or tagged out to protect against accidental or inadvertent operations when such operations could cause injury to personnel. Do not attempt to operate any switch, valve, or other energy-isolating device where it is locked or tagged out.

This standard does not apply to work on cord and plug connected to electrical equipment for which exposure to the hazards of unexpected energization or start up the equipment is controlled by the unplugging of the equipment from the energy source and by the plug being under the exclusive control of the employee performing the servicing or maintenance.

In the event a piece of equipment is to be isolated for a period of time exceeding one normal shift and the isolating means is not capable of being locked out, a reasonable effort will be made to affix a device to the isolating means to make capable of being locked out.

Lockout-Tagout protects workers from these energy sources:

89. moving machinery (kinetic)
90. stored energy (potential)
91. electrical
92. chemical
93. thermal
94. hydraulic
95. gravitational
96. pneumatic

Definitions

Authorized (Qualified) Employees
The only ones certified to lock and tagout equipment or machinery. Whether an employee is considered to be qualified will depend upon various circumstances in the workplace. It is likely for an individual to be considered "qualified" with regard to certain equipment in the workplace, but "unqualified" as to other equipment. An employee who is undergoing on-the-job training and who, in the course of such training, has demonstrated an ability to perform duties safely at his or her level of training and who is under the direct supervision of a qualified person, is considered to be "qualified" for the performance of those duties.

Affected Employees
Those employees who operate machinery or equipment upon which lockout or tagging out is required under this program. Training of these individuals will be less stringent in that it will include the purpose and use of the lockout procedures.

Other Employees
Identified as those that do not fall into the authorized, affected or qualified employee category. Essentially, it will include all other employees. These employees will be provided instruction in what the program is and not to touch any machine or equipment when they see that it has been locked or tagged out.

Machinery and Equipment

Lockout is the preferred method of isolating machines or equipment from energy sources. Tagout is to be performed instead of lockout only when there is no way to lockout a machine.

Routine Maintenance & Machine Adjustments

Lockout/tagout procedures are not required if equipment must be operating for proper adjustment. This rare exception may be used only by trained and authorized Employees when specific procedures have been developed to safely avoid hazards with proper training. All consideration shall be made to prevent the need for an employee to break the plane of a normally guarded area of the equipment by use of tools and other devices.

Locks, Hasps and Tags

All Qualified Maintenance Personnel will be assigned a lock with one key, hasp and tag. All locks will be keyed differently, except when a specific individual is issues a series of locks for complex lockout-tagout

tasks. In some cases, more than one lock, hasp and tag are needed to completely de-energize equipment and machinery. Additional locks may be checked out from the Department or Maintenance Supervisor on a shift-by-shift basis. All locks and hasps shall be uniquely identifiable to a specific employee.

Preparation for Lock and Tag Out Procedures

A Lockout/Tagout survey has been conducted to locate and identify all energy sources to verify which switches or valves supply energy to machinery and equipment. Dual or redundant controls have been removed.

A Tagout Schedule has been developed for each piece of equipment and machinery. This schedule describes the energy sources, location of disconnects, type of disconnect, special hazards and special safety procedures. The schedule will be reviewed each time to ensure employees properly lock and tag out equipment and machinery. If a Tagout Schedule does not exist for a particular piece of equipment, machinery and process, one must be developed prior to conducting a Lockout - Tagout. As repairs and/or renovations of existing electrical systems are made, standardized controls will be used.

Sequence of Lockout System Procedure

1. Lockout locks cannot be used for any purpose other than lockout, and must meet the following provisions:
    a. Standardized throughout the plant by color, shape or size.
    b. Durable enough to withstand heat, cold, humidity or corrosiveness.
    c. Strong enough so that it cannot be removed without heavy force or tools such as bolt cutters.
    d. Identified by the name of the employee who installs and removes it.

2. The authorized employee (one who performs maintenance or servicing) shall identify the type and magnitude of the energy that the machine or equipment utilizes, shall understand the hazards of the energy, and shall know the methods to control the energy.

3. The authorized employee is to notify all affected employees that servicing or maintenance is required on a machine or equipment, and that the machine or equipment must be shut down and locked out to perform the servicing or maintenance.

4. If the machine or equipment is operating, shut it down by the normal stopping procedure (depress stop button, open switch, close valve, etc.).

5. De-activate the energy isolating device(s) so that the machine or equipment is isolated from the energy source(s).

6. Stored or residual energy (such as that in capacitors, springs, elevated machine members, rotating flywheels, hydraulic systems, and air, gas, steam, or water pressure, etc.) must be dissipated or restrained by methods such as grounding, repositioning, blocking, bleeding down, etc.

7. Lockout the energy isolating devices with a lock(s).

8. Ensure that the equipment is disconnected from the energy source(s) by first checking that no personnel are exposed, then verify the isolation of the equipment by operating the push button or other normal operating control(s), or by testing to make certain the equipment will not operate.

CAUTION: *RETURN OPERATING CONTROL(S) TO NEUTRAL OR "OFF" POSITION AFTER VERIFYING THE ISOLATION OF THE EQUIPMENT.*

The machine or equipment is now locked out. Maintenance or servicing may be performed.

Sequence of Tagout System Procedure

The authorized employee shall use the tagout procedure ***ONLY WHEN THE MACHINE OR EQUIPMENT IS NOT CAPABLE OF BEING LOCKED OUT.***

1. The tagout device shall be standardized throughout the plant, and shall meet the following provisions:
    a. Easy to read and understand, even if used in dirty, corrosive, or damp areas.
    b. Can't be released with less than 50 pounds of pressure.
    c. Can be attached by hand.
    d. Is self-locking.
    e. Shows the identity of the authorized employee.
    f. Can't be reused.

2. The tagout device shall be attached at the same location that the lockout device would have been attached.

3. Authorized employees shall utilize additional means as necessary to provide the equivalent safety available from the use of a lockout device. Additional safety measures that reduce the likelihood of inadvertent energization may include:
    a. The removal of an isolating circuit element;
    b. Blocking of a controlling switch;
    c. Opening of an extra disconnecting device; or
    d. The removal of a valve handle.

Restoring Machines/Equipment to Normal Production Operations

When the servicing is completed and the equipment is ready to return to normal operating condition, the following steps shall be taken:

1. Check the work area to ensure that all employees are a safe distance from the equipment.

2. Check the machine or equipment and the immediate area around the machine or equipment to ensure that nonessential items (such as tools) have been removed, and that the machine or equipment components are operationally intact.

3. Reinstall any machine guards.

4. Verify that the controls are in neutral.

5. Remove the lockout and/or tagout devices and reenergize the machine or equipment.

6. Notify affected employees that the servicing or maintenance is completed and the machine or equipment is ready for use.

NOTE: The removal of some forms of blocking may require re-energization of the machine before safe removal. When maintenance or service is done, only the same authorized employee who installed the lock may remove it. When the authorized employee is not available to remove the lock, a "Lockout Removal" form must be completed by the employee removing the lock (see attachment Procedure for Lockout & Tagout Removal).

Temporary Removal

Occasionally, lockout/tagout devices must be temporarily removed in order to test the equipment or machine. When this occurs the following steps should be taken.

1. Clear away any tools from the danger area.
2. Remove any employees from the danger area.
3. Remove the lockout/tagout device(s).
4. Carefully re-energize and proceed with testing.
5. De-energize and reapply lockout/tagout device(s) following the sequence of lockout/tagout procedures listed above.
6. Document the name and title of the individual(s) who performs and verifies this process.

Procedure Involving More Than One Person

In the preceding steps, if more than one individual is required to lockout or tagout equipment, each shall place his or her own personal lockout or tagout device on the energy isolating device(s).

When an energy-isolating device cannot accept multiple locks or tags, a multiple lockout or tagout device (hasp) may be used. If lockout is used, a single lock may be used to lockout the machine or equipment with the key being placed in a lockout box or cabinet which allows the multiple locks to secure it. Each employee will then use his or her own lock to secure the box or cabinet. As a person no longer needs to maintain his or her lockout protection, that person will remove his or her lock from the box or cabinet.

If a single authorized employee is given the primary responsibility for a set number of employees working under the protection of a group lockout or tagout device then the following safety measures must be adhered to:

- Authorized employee must ascertain the exposure status of individual group members.
- Each employee shall attach a personal lockout/tagout device to the group’s device while he/she is working. The device shall be removed when finished.

Stored Energy

Following the application of the lockout or tagout devices to the energy isolating devices, all potential or residual energy will be relieved, disconnected, restrained, and otherwise rendered safe.

Where the re-accumulation of stored energy to a hazardous energy level is possible, verification of isolation will be continued until the maintenance or servicing is complete.

Release stored energy (capacitors, springs, elevated members, rotating fly wheels, and hydraulic/air/gas/steam systems) must be relieved or restrained by grounding, repositioning, blocking and/or bleeding the system.

Extended Lockout/Tagout

Should the shift change before the machinery or equipment can be restored to service, the lock and tag out must remain. If the task is reassigned to the next shift, those Employees must lock and tag out before the previous shift may remove their lock and tag.

Procedure for Electrical Plug-Type Equipment

This procedure covers all Electrical Plug-Type Equipment such as Battery Chargers, some Product Pumps, Office Equipment, Powered Hand Tools, Powered Bench Tools, Lathes, Fans, etc.

When working on, repairing, or adjusting the above equipment, the following procedures must be utilized to prevent accidental or sudden startup:

1. Unplug Electrical Equipment from wall socket or in-line socket.
2. Attach "Do Not Operate" Tag and Plug Box & Lock on end of power cord.
3. An exception is granted to not lock & tag the plug is the cord & plug remain in the exclusive control of the Employee working on, adjusting or inspecting the equipment.
4. Test Equipment to assure power source has been removed by depressing the "Start" or On" Switch.
5. Perform required operations.
6. Replace all guards removed.
7. Remove Lock & Plug Box and Tag.

Inspect power cord and socket before plugging equipment into power source. Any defects must be repaired before placing the equipment back in service.

NOTE: Occasionally used equipment may be unplugged from power source when not in use.

Management's Removal of Lock and Tag Out

Only the Employee that locks and tags out machinery, equipment or processes may remove his/her lock and tag. However, should the Employee leave the facility before removing his/her lock and tag, the Maintenance Manager may remove the lock and tag. The Maintenance Manager must be assured that all tools have been removed, all guards have been replaced and all Employees are free from any hazard before the lock and tag are removed and the machinery, equipment or process are returned to service. Notification of the employee who placed the lock is required prior to lock removal. This process must be properly documented.

Additional State Requirements

Some states include required procedures for equipment that needs to have power supplied to them for repair, adjust, test, or set up activities, including the following:

- A qualified operator must control the activities,
- The operator must be in clear view and clear communication with all participants,
- Participants must be beyond the reach of machine elements, and
- Locking out equipment if machines require the operator to leave the control station.

De-energizing machines at their power sources during adjustment or replacement of machine components.

Outside contractors must use the host employer's LOTO procedures.

Training

Authorized Employees Training
All Maintenance Employees, Department Supervisors and Janitorial employees will be trained to use the Lockout/Tagout Procedures. The training will be conducted by the Maintenance Supervisor or Safety Coordinator at time of initial hire. Retraining shall be held at least annually. The training will consist of the following:

- Review of General Procedures
- Review of Specific Procedures for machinery, equipment and processes
- Location and use of Specific Procedures
- Procedures when questions arise

Affected Employee Training

- Only trained and authorized Employees will repair, replace or adjust machinery, equipment or processes.
- Affected Employees may not remove Locks, locking devices or tags from machinery, equipment or circuits.
- Purpose and use of the lockout procedures.

Other Employee Training

Only trained and authorized Employees will repair, replace or adjust machinery or Equipment.

Other Employees may not remove Locks, locking devices or tags from machinery, equipment or circuits

Documentation

Procedural steps for lockout/tagout for all machines shall be documented on the Lockout/Tagout Schedule form. A copy of this form will be given to the authorized employee and will be kept in the Safety Coordinator's office.

Documentation of employee training shall be kept on file in each employee's training file.

An inspection shall be performed, certified and documented annually, under the direction of the RSO, to assure compliance with the written program. This will be kept in the RSO's office. The purpose is to ensure that the written procedures and the requirements of the standard are being followed, and that employees understand their responsibilities under the procedures.

Affected Employees for Lockout/Tagout

Because people may be moved from one work area to another, it would not be appropriate or practical to generate a list of people identified with a particular area. Therefore, the person who initiates, or terminates, a lockout or tagout procedure will notify those persons in the affected area.

Periodic Inspection

A periodic inspection is done, looking at the energy control procedures performed to ensure that the procedure and requirements of the standard are being followed. This inspection is performed annually.

HAND & POWER TOOL SAFETY PROGRAM

COMELCO, INC. is committed to ensuring the safety of all employees who work with hand and power tools. Small hand tools can inflict great injury, as can power tools. By outlining the following safe operating procedures we learn to prevent injury and safeguard ourselves and our co-workers. This Hand & Power Tool Safety Program was developed to establish guidelines and Safe Operating Procedures for our employees.

Administration

RORY B. BARTON , Responsible Safety Officer is responsible to the implementation and maintenance of this program. A copy of the Hand and Power Tool Safety Program is located in the RSO's office.

General Safe Operating Procedures

- Whether furnished by the Company or the employee, all tools should be maintained in a safe condition.
- Guards should be in place and operable at all times while the tool is in use. The guard may not be manipulated in such way that will comprise its integrity or compromise the protection in which intended. Guarding should meet the requirements set forth in ANSI B15.1.
- Employees using hand and power tools and exposed to the hazard of falling, flying, abrasive, and splashing objects, or exposed to harmful dust, fumes, mists vapors, or gases will be provided with particular PPE necessary to project them from the hazard.
- Any tool not in compliance should either be identified as unsafe by tagging or locking the controls to render them inoperable or should be physically removed from its place of operation.

Hammers

General Safety - Safe Operation

- Wear eye protection. Whenever possible, use soft-faced hammers (plastic, wood, or rawhide) when striking hardened surfaces,
- Check the condition of the handle. Keep handles tightly wedged in hammerheads to prevent injury.
- Replace cracked or splintered handles.
- Select the right size for the job. A light hammer bounces off the work. One that's too heavy is hard to control.
- Grip the handle close to the end to increase leverage for harder, less tiresome blows.
- Prevent injuries to others by swinging in a direction that won't let your hammer strike someone if it slips from your hand.
- Keep the handle dry and free of grease and oil.
- Keep the hammer face parallel with your work. Force is then distributed over the entire hammer face, reducing the tendency of the edges of the hammerhead to chip, or slip off the object being struck.

Chisels & Punches

General Safety - Safe Operation

- Wear eye protection.

- Grind off mushroom heads. The sharp edges can tear your skin or chips could break off the mushroomed head and fly into your eyes.
- Keep a smooth bevel ground on the heads of all punches and chisels.
- Don't use chisels and punches for prying.
- Hold the tool steadily but loosely. The best place to hold it is just below the head. If you miss and strike your hand, your hand will not be caught between the hammer and the work piece.
- Select the proper sized tool for the job. Heavy Pounding on tools too small for the job increases the risk of injury from tool breakage.

Knives

General Safety - Safe Operation

- Keep blades sharp. The greater the force you have to apply, the less control you have over the cutting action of the knife. The safest knife usually has the sharpest edge.
- Cut away from the body. Your hands and fingers should always be behind the cutting edge.
- Keep knife handles clean and dry to keep your hand from slipping onto the blade.
- Never pry with a knife; blades are hardened and can break with a snap.
- Store knives safely. Keep knives in their own box or scabbard when not in use.

Screwdrivers

General Safety - Safe Operation

- Use screwdrivers only for driving screws.
- Sharpen screwdrivers properly, File or grind worn or damaged tips to fit the slot of the screw. A sharp, square-edged tip won't slip as easily as a dull one, and less pressure will be required to hold the tip in the slot.
- Don't hold parts in your hand, put the wok on a bench or in a vise to avoid the possibility of piercing your hand with the screwdriver tip.
- Use screwdrivers with insulated handles for electrical work.

Hand Saws

General Safety - Safe Operation

- Keep handsaws sharp and free of rust to prevent them from binding or jumping.
- Always make saw cuts directly across the material with a slow, careful, downward stroke.
- Never force the saw through the cut as this may cause the saw to buckle or fly out of the groove causing an injury.

Power Carpenter Tools

- Three Types: Electrical, Pneumatic, and Hydraulic.
- Operate power tools only if you are trained and completely familiar with the tool.
- Inspect all power tools and cords before using them. The tools should be clean and in good condition. Do not use a tool that has a damaged cord or hose.
- Make sure the work area is well lit.
- Do not operate power tools if you cannot see the working surface clearly.
- Ensure that the power source is the proper voltage and current for the tool.
- Make sure the tool is turned “OFF” before connecting it to a power source.

- When using a power tool, give the tool your full and undivided attention.
- Do not distract or disturb another worker who is operating a power tool.
- Always disconnect a power source before cleaning or making adjustments to the tool.
- Ensure that the power source for a hydraulic or pneumatic tool is the correct pressure for the tool.
- Check electrical cords frequently and use only approved extension cords.
- Ensure that cords and hoses are positioned so they do not become tripping hazards.
- Do not use electric tools in areas where water is present.

Air Compressors

- Read all manuals included with this product carefully. Be thoroughly familiar with the controls and the proper use of the equipment.
- Only trained personnel shall be allowed to use the compressor.
- Keep visitors away and NEVER allow children in the work area during operation.
- Wear the appropriate personal protective equipment when operating the unit.
- Before each use, inspect compressed air system and electrical components for signs of damage, deterioration, weakness or leakage. Repair or replace defective items before operating.
- Never weld or drill holes in the air tank.
- Release air slowly when draining moisture or depressurizing the compressor system.
- Keep fingers away from a running compressor, fast moving and hot parts will cause injury and /or burns.
- Never use air compressor for the purpose of supplying breathing air.
- Never operate or repair in or near a flammable gas or vapor.
- Never stand on or use the unit as handhold.
- Disconnect power and release all pressure from the system before attempting to install, service, relocate or perform any maintenance.
- Do not use extension cords with this product. Use additional air hoses instead to avoid power loss and permanent motor damage.
- Do not exceed pressure limits for any component in the system.

Table Saw

- Always keep the blade guard and driving knife (splitter) in place and in working order. Keep tools and cords in god repair and clean for better and safe performance.
- Keep work area clean and well lit. Don’t use power tools in damp or wet locations.
- Wear the appropriate personal protective equipment. Do not wear loose clothing or jewelry.
- Disconnect tools, when not in use, before servicing, or when changing attachments, blades, bits, or cutters.
- Never yank cord to disconnect from receptacle. Keep cord from heat, oil, and sharp edges.
- Avoid accidental starting, be sure switch is off when plugging in.
- Keep hands away from cutting area. Never touch blade or other moving parts during use.
- Never use in explosive atmosphere.
- Never leave tool running unattended.
- Avoid cutting nails.
- Never start a tool when its rotating parts are in contact with the work piece.
- Always secure work firmly against rip fence or miter fence.
- Never stand or have any part of you body in line with the path of the saw blade. Do not reach over any moving parts.

- Never attempt to free a stalled saw blade without first turning the saw off and disconnecting the saw from the power source.
- Avoid kickbacks (work thrown back toward you) by:
    - Keeping blade sharp.
    - Keeping rip fence parallel to the saw blade.
    - Keeping riving knife, anti-kickback pawls, and blade guard in place and operating.
    - Not releasing the work before it is pushed all the way past the saw blade using a push stick.
    - Not ripping work that is twisted or warped or does not have a straight edge to guide alone the fence.

Chainsaw

- Only trained and authorized operators shall be permitted to operate the designated equipment.
- PERSONAL PROTECTIVE EQUIPMENT IS MANDATORY AND SHALL INCLUDE THE FOLLOWING:
    - Safety goggles
    - Hearing protection
    - Boots/Steel toe shoes
    - Gloves
    - Chaps
    - Hard hat with face protector
    - Snug fitting closes
- Keep bystanders and animals out of the work area.
- Do not operate the unit when you are fatigued, ill, or if you are under the influence of alcohol, drugs, or medication.
- Do not operate a chain saw that is damaged, improperly adjusted, or not completely and securely assembled.
- Do no start cutting until you have a clear work area, secure footing, and a planned escape route.
- Prior to starting the engine, ensure that the nose of the saw is free of contact with anything.
- Keep the handles dry, clean, and free of oil or fuel mixture.
- Operate the chain saw only in well-ventilated areas.
- Keep all parts of your body away from the saw chain when the engine is running.
- Carry the chain saw with the engine stopped, the guide bar and chain to the rear with the muffler away from your body. Use the appropriate guide bar safety cover.
- Shut off the engine before setting the chain saw down.
- Use caution when cutting small size brush; slender material may catch the saws chain pulling you off balance.
- When cutting a limb that is under tension be alert for spring back so that you will not be struck when the tension in the wood fibers are released.
- Do not operate a chain saw in a tree unless you have been specifically trained.
- All chain saw service should be performed by competent chain saw service personnel.

Kick Back Safety

- Keep a good firm grip on the saw with both hands when the engine is running. Use the chain brake and kickback guard.
- Do not let the nose of the saw contact a log, branch, or any other object in the cutting path which may cause kickback.
- Cut at high engine speeds to reduce possibility of kickback.

- Do not over extend or cut above shoulder height.
- Keep the chain sharp and properly adjusted.
- Specialty Items
- Avoid making cuts with the saw between your feet and legs, always cut with the saw to the outside of your legs.
- Never position yourself or others in line with the chain. A broken chain will fly forward in the direction the guide bar is pointing.
- Keep the chain clean to prolong its life and to reduce the hazard of debris being thrown.

Drill Press

- Only authorized personnel shall operate specific pieces of equipment or power tools.
- Know your equipment - read and understand the owner's manual and labels affixed to the tools. Learn its applications and limitations.
- All electrical or mechanical repairs should be attempted only by trained repair people.
- Keep children away from all operating equipment.
- Do not let visitors come in contact t with tools or extension cords. All visitors shall be kept out of the immediate work area.
- Use the drill press in a well-lit area and on a level, clean and smooth surface to reduce the risk of trips and fall around running equipment.
- Do not use power tools in damp or wet locations.
- Do not use the tool in the presence of flammable fluids or gases.

Equipment Awareness

- Don't overreach while using tools and equipment. Keep proper footing and balance at all times. Adjust the work area height as needed.
- Never place your fingers in a position where they could contact the drill bit or other cutting tool parts.
- Use the appropriate personal protective equipment - do not wear loose clothing or jewelry and restrain long hair which can be caught in moving parts.
- Disconnect tools from power source when not in use and before servicing, when changing wheels, etc.
- Keep all machine guards in place, in proper adjustment and alignment.
- Ensure the switch is in the "off" position before plugging in the tool.
- Before connecting the tool to a power source, be sure the voltage supplied is the same as that specified for the tool.
- Check the tool for damage or needed repairs prior to use.
- Do not leave a tool until it comes to a complete stop. Do not lay it down to stop it.
- Keep the tool dry, clean and free from oil and grease.

Safe Work Surface

- Always support the work piece so it doesn't shift or bind on the tool.
- Always position backup material underneath the work piece.
- Use a drill press vise, do not do any work "free hand", always fasten your stock to the table. Use fixtures to adequately hold, guide and position the work piece.
- Never move the head or table support while the tool is running.
- Before starting operation, jog the motor switch to make sure the drill bit or other cutting tools do not wobble or cause vibration.

- Use the bit and speed recommended for the job and work piece material. Remember, the longer the bit, the slower the drill speed.
- Never climb on the drill press table, it could bread or pull the entire drill press down.
- To avoid injury from thrown work or tool contact, do not perform layout, assemble or setup work on the table while the cutting tool is rotating.
- When drilling wood or metal, raise the drill bit frequently to clean chips from the hole.
- Prior to start, center punch the area to be drilled for an easier start and less chance of slippage.

Belt Grinder (Free Standing or Hand Held)

- Always wear approved eye respiratory, and hand protection when working with or near grinders. The most common injury is from flying particles in the eye. Kick back causes the severest grinder injuries.
- Visually inspect wheels for damage before mounting and using them. Chipped or cracked wheels must be discarded - if used they will shatter and cause injury.
- Do not stand directly in line with a newly-mounted wheel when beginning start-up.
- Before grinding, always test run a newly-mounted wheel at full speed for the following :
    - Thirty (30) seconds for reinforced discs.
    - Sixty (60) seconds for stand-mounted grinders.
- Make sure the r.p.m. of the machine does not exceed the rate wheel speed. The governor mechanism should be checked to make sure it is functioning properly.
- Rests used on grinders shall not be more than _ (one-eight) inch from the face, fastened securely and must not be adjusted while the wheel is in motion.
- All spindles, adapters, flanges, and other parts should be inspected periodically and maintained to size and in good conditions.
- Proper lubrication of the motor and bearing is essential.
- Use proper safety guards on grinders. Special guards area available for all grinders when working in confined areas. Make sure the guards are properly secured.
- Grind only on the face of a straight wheel. Use disk wheels or angle grinders for side grinding. Light side grinding is permitted with a cup or saucer wheel.
- Make sure the wheel has stopped before putting the grinder down as it can travel, thus injuring a person or damaging equipment. Lay the machine down with the disk up.
- Avoid dropping or bumping the wheel. Do not allow anything to strike a wheel which is not in use. Handle and store wheels carefully, following manufacturer’s specifications.

Training

[RSO Name], RSO is responsible for ensuring that all employees that use hand tools have the necessary training to perform their job safely.

EMERGENCY ACTION PLAN

Purpose

COMELCO, INC. is dedicated to the protection of its employees from emergencies such as tornadoes and fires. When emergencies do occur, our Emergency Action Plan (EAP) is initiated. This EAP is in place to ensure employee safety from emergencies during regular hours and after hours. It provides a written document detailing and organizing the actions and procedures to be followed by employees in case of a workplace emergency.

OSHA's Emergency Action Plan requirements, require [Company Name] to have a written emergency action plan (EAP). This EAP addresses emergencies that our company expects may reasonably occur at any of sites.

The EAP communicates to employees, policies and procedures to follow in emergencies. This written plan is available, upon request, to employees, their designated representatives, and any OSHA officials who ask to see it.

Administrative Duties

RORY B. BARTON, RSO (or designee) is the EAP administrator, who has overall responsibility for the plan. This responsibility includes the following:

- Developing and maintaining a written Emergency Action Plan for regular and after hours work conditions;
- Notifying the local fire or police departments, and the building owner/superintendent in the event of an emergency affecting the facility;
- Taking security measures to protect employees;
- Integrating the Emergency Action Plan with any existing general emergency plan covering the building or work area occupied;
- Distributing procedures for reporting emergencies, the location of safe exits, and evacuation routes to each employee;
- Conducting drills to acquaint employees with emergency procedures and to judge the effectiveness of the plan;
- Training designated employees in emergency response such as the use of fire extinguishers and the application of first aid;
- Deciding which emergency response to initiate (evacuate or not);
- Ensuring that equipment is placed and locked in storage rooms or desks for protection;
- Maintaining records and property as necessary; and
- Ensuring that our facility meets all local fire codes, building codes, and regulations.

The RSO is responsible for reviewing and updating the plan as necessary. Copies of this plan may be obtained from the RSO's office.

The RSO has full authority to decide to implement the EAP if he believes an emergency might threaten human health. The following potential emergencies might reasonably be expected at this facility or work areas and thus call for the implementation of this EAP:

- Fire emergencies (process area fires, non-pressurized tank fires, pressurized tank fires, fires at loading facilities, warehouse fires, office building fires, electrical fires)
- Toxic gas releases

- Flammable gas releases
- Hazardous liquid spills
- Oil spills
- Release of radiation
- Tornadoes
- Winter storms
- Flooding
- Earthquakes
- Bomb threat/Civil disturbance.
- First-aid emergencies

The RSO can be contacted regarding further information about duties under this written Emergency Action Plan

Key management personnel home telephone numbers are kept in a safe place, on office and work area bulletin boards, and in company vehicles, for immediate use in the event of an emergency. These telephone numbers of key management personnel have been distributed all supervisors to be retained in their homes for use in communicating an emergency occurring during non-work hours:

If, after reading this plan, you find that improvements can be made, please contact the plan administrator, [RSO Name]. We encourage all suggestions because we are committed to the success of our Emergency Action Plan. We strive for clear understanding, safe behavior, and involvement in the program from every level of the company.

Alarms

Different emergencies call for different alarms to indicate what actions employees should take. [Company Name] has established an employee alarm system that complies with OSHA regulations. We will use the tornado alarm to warn employees of tornado warnings only.

We have posted the emergency telephone numbers near telephones, or emergency notice boards, and other conspicuous locations for use when telephones serve as a means of reporting emergencies.

Emergency Reporting and Weather Monitoring Procedures

In the Event of an Emergency Requiring Evacuation

When employees detect an emergency that requires an evacuation, such as a fire or hazardous release, they should Activate the fire alarm and exit the building to the designated safe area for a headcount. The fire department will be notified via telephone.

In the Event of a Tornado Watch

We monitor tornadoes by severe weather radio. When available, our backup method for monitoring tornadoes includes city and county tornado sirens

Evacuation Procedures

Some emergencies require evacuation or escape procedures, while some require employees to stay indoors, or in a safe area. Our emergency escape procedures are designed to respond to many potential emergencies, depending on the degree of seriousness. Nothing in these procedures precludes the plan administrator's authority in determining whether employees should remain inside or evacuate.

At this company, the following types of emergency evacuations exist:
- total and immediate evacuation
- partial evacuation

Our emergency escape procedures and assignments are designed to respond to many potential emergencies that require them, including: fire, tornado, bomb threat, chemical release.

Employees need to know what to do if they are alerted to a specific emergency. After an alarm is sounded to evacuate, employees should take the following steps:
- Cease work immediately and proceed to the nearest available exit.
- Go to your designated safe area for a headcount and further instructions.

Procedures to Account for Employees

Trained evacuation personnel assist in safe and orderly evacuation for all types of emergencies that require evacuation. Once evacuation is complete, they conduct head counts. The employees selected are trained in the complete workplace layout and the various alternative escape routes from the workplace. All trained personnel are made aware of employees with disabilities who may need extra assistance, such as using the buddy system, and of hazardous areas to be avoided during emergencies. Before leaving, these employees check rooms and other enclosed spaces in the workplace for employees who may be trapped or otherwise unable to evacuate the area.

Frontline supervisors must be aware of the locations of those employees working on a particular day when an emergency occurs, and be aware of who is absent or otherwise away from the premises. Accounting for employees will aid local responding fire/rescue departments in determining whether rescue efforts are necessary.

Once each evacuated group of employees have reached their evacuation destinations, each trained evacuation employee:
- Takes roll of his or her group,
- Makes sure all persons are accounted for,
- Reports in to a central checkpoint managed by [RSO Name], RSO, and
- Assumes role of department contact to answer questions.

Head count results should be given to the Fire Chief or firefighter, if requested.

No employees are to return to their work area until advised by [RSO Name], RSO or designee (after determination has been made that such re-entry is safe).

Fire

Upon sounding the alarm, all personnel shall evacuate the work area by the most direct route. The routes are shown on the work place maps posted on the bulletin boards.

Prior to exiting, turn off machine at your work station or close the valves on gas operated equipment such as oxygen/acetylene carts. Do not try to retrieve items or tools.

RORY B. BARTON, prior to exiting the area, shall ensure that all equipment is secured and all areas are checked to ensure that no employee remains in his area.

All employees shall go directly upon sounding the alarm to the parking lot and assemble with your Supervisor for a head count. At no time will you leave this area unless directed by management or supervision. Do not try to re-enter the work area to obtain personal items or tools. Supervisors will report to RORY B. BARTON, or his or representative with the names of all employees counted and any unaccounted for personnel as soon as the head count is completed.

Any fire fighting, rescue or medical duties will be performed by the fire department, police department, or hospital medical personnel. At no time will our personnel attempt on their own initiative, a rescue or fire suppression, after departing the area. The only fire fighting attempted by our personnel will be in the incipient stage of the fire.

Should an employee discover a fire, he or she will notify the Supervisor in that area who will advise [RSO Name] or his or her representative. At the same time the Supervisor will direct the use of fire extinguishers against the fire and evacuate when he or she deems it necessary.

RORY B. BARTON will be responsible for furnishing any further information to the employees concerning this plan.

Tornado

Upon being advised of the distinct possibility that a tornado may strike the area [RSO Name] or his representative shall sound the alarm. All personnel shall seek shelter immediately by either crawling under sturdy work benches, equipment, inside rooms or basements within the shop after shutting off power to machines.

Upon sounding the all clear signal which will be a voice signal and providing the tornado missed the shop, all personnel shall resume normal production duties.

If the tornado strikes the shop and the all clear is sounded by the U.S. Weather Bureau, it may be necessary to evacuate part of the work area.

Personnel in each building will be advised by voice communication by [RSO Name] or his representative as to what action is necessary. If evacuation is deemed necessary those personnel to be evacuated will proceed directly to the parking lot. Do not try to retrieve personal items or tools. Head counting procedures will be the same as for fires. At no time will you leave this area unless directed by management or supervisory personnel.

All fire fighting, rescue and medical duties will be performed by fire department, police department, and hospital medical personnel. At no time will our personnel attempt on his own initiative a rescue after departing the work area.

RORY B. BARTON will be responsible for furnishing any further information to the employees.

Earthquake

Upon realization that an earthquake is occurring get under the nearest workbench or equipment that will provide you overhead protection from falling objects. Try to stay away from electrical lines and overhead storage racks containing heavy objects.

Upon sounding the alarm, all personnel shall evacuate the area by the most direct exit. The routes are shown on the work place maps posted on bulletin boards. Prior to your exit turn off your machine at your work station and close the valves on gas operated equipment such as oxygen/acetylene welding carts. Do not try and retrieve personal items or tools.

RORY B. BARTON , prior to exiting the work area, shall ensure that all equipment is secured and all areas are checked to ensure that no employee remains on the work area.

All employees shall go directly upon sounding of the alarm to the parking lot and assemble with your Supervisor for a head count. At no time will you leave the area unless directed by management or supervisory personnel. Do not try to re-enter the work area to obtain personal items or tools. Supervisors report to RORY B. BARTON or his or her representative the names of personnel counted and any unaccounted personnel as soon as the head count is completed.

Any rescue or medical duties will be performed by fire departments, police departments, or hospital medical personnel. At no time will our personnel attempt on their own initiative a rescue or fire suppression after departing the work area.

Terrorist Bomb Threat

Conduct Bomb Search

All supervisory personnel shall be advised by voice communication that a bomb threat has been received by the company at this work area.

All work activities shall cease in the suspected areas and a planned, organized search for the suspected bomb will be conducted by all personnel. They are to be instructed to look for any item that normally would not be in this area. This could be a package, bundle, sack, box, or any object that might look suspicious.

Employees are to be instructed never to touch the object in any way, but to notify supervision who in turn advise fire and police personnel of the find.

At this time management must consider the possibility of a partial evacuation of the area. If this evacuation is deemed advisable then evacuation procedures outlined in the following paragraph shall be followed.

Evacuation

Upon sounding the alarm, personnel shall evacuate the area by the most direct exit.

The routes are shown on the work place maps posed on bulletin boards.

Prior to exit, turn off your machine at the work station or close valves on gas operated equipment. Do not try to retrieve personal items, tools or vehicles. [RSO Name], prior to exiting the work area, shall ensure that all equipment is secured and all areas are checked to ensure no employees remain on the work area. LEAVE THE LIGHTS ON TO ASSIST SEARCH PERSONNEL.

The employees shall go directly upon sounding of the alarm, to the parking lot and assemble with your Supervisor for a head count.

At no time will you leave this area unless directed by management or supervisory personnel. Do not try to re-enter the building or grounds to obtain personal items or tools or cars. Supervisors shall report to [RSO Name] or his representative the names of all employees counted and any unaccounted for personnel as soon as head count is completed.

Hazardous Chemical Release

In the event of an accidental release of hazardous chemicals, an evacuation would be required if the release is in a significant amount to cause, or have potential to cause, harm to employees.

After it is determined that there is a hazardous chemical emergency, the Management Team will be notified and make the decision whether to evacuate any areas. All unqualified Employees should remain clear of any spill or release of any hazardous material. If evacuation procedures have been initiated, ALL EMPLOYEES MUST LEAVE THE PLANT and proceed to the designated meeting area

NO ONE MAY ENTER THE RELEASE/SPILL/AFFECTED AREAS WITHOUT PROPER PERSONAL PROTECTIVE EQUIPMENT AND MANAGEMENT PERMISSION.

PPE is required at all times until the hazard has been dissipated with proof by proper testing procedures.

Maintenance Manager will proceed directly to the emergency area to determine if evacuation or outside help is necessary.

Management will activate the Emergency Response Team if required.

Management will implement the **Emergency Spill Procedures** of the **Spill Prevention Control & Countermeasures Plan** if any hazardous material is released.

Notification of State Department of Environmental Monitoring and EPA is required if spilled oil material discharges or threatens to discharge into a waterway of the State causing a visible sheen on or a discoloration of the surface water or shorelines, or if a reportable quantity for a hazardous substance is discharged or may unavoidably be discharged to a waterway of the State.

Medical Emergencies

All Medical Treatment provided by OHCP employed by Company shall follow the *Medical Directives and Nursing Procedures for Emergency Care*

After a medical emergency has been identified, the Assigned Manager, Occupational Health Care Professional or Senior Management Team Member and Area Supervisor should be notified immediately.

The Area Supervisor has the responsibility to assure that the Assigned Manager, OHCP or Senior Management Team Member has been notified.

The severity of the medical emergency and level of action required will be determined by the on-site OHCP.

All Medical Emergency Care Providers will use the proper PPEs as outlined in the *Control of Bloodborne Pathogens Program* and will follow the proper standards of care.

All injured or ill Employees requiring emergency medical care for life/death medical emergencies will be transported by local Emergency Medical Services (EMS) to the nearest local Hospital.

All non-life/death medical emergencies will be managed by the OHCP and Company Physician following proper standards of care.

All Employees who are involved in an injury or accident shall be screened for drugs and alcohol as prescribed by company policy.

During any emergency, the OHCP or Assigned Manager will have the responsibility to set-up the emergency medical care station at a location directed by the Senior Management Team Member depending on the emergency and relevant conditions.

Plan Administrator Duties

During an emergency, [RSO Name], RSO will do the following:

- Take all necessary measures to contain the hazard and prevent its spread to other nearby areas, with the assistance of emergency personnel.
- If the emergency is a hazardous material spill, ensure that the hazardous material and any material with which in came into contact (gravel, soil, etc.,), will be scraped up using shovels and/or brooms. All this combined material will be considered hazardous waste unless analysis shows otherwise.
- Provide for collection, treatment, and disposal of the waste and contaminated material by the emergency crew or outside contractor, as appropriate.
- Ensure that contaminated soil, liquids, or other material is placed in drums and handled as a hazardous waste.
- Ensure that the emergency crew restores all emergency equipment to full operational status.
- Assisted by other qualified persons, begin to investigate the cause of the emergency and take steps to prevent a recurrence of such or similar incidents.
- Ensure that the cause of the emergency has been eliminated and that cleanup and restoration have progressed at least to the point of not jeopardizing the health and safety of the employees, and that EPA, state, and local authorities have been notified, if required.
- Ensure that for spills or releases involving a hazardous substance at or above its reportable quantity, the following necessary information is recorded and reported: name of chemical(s) involved, whether the substance is listed under 40 CFR 302—extremely hazardous substances, estimated quantity of the released substance, time of the release and duration, medium into which the substance was released, health risks associated with the release, precautions taken to respond to the release, name and telephone numbers of persons who can be contacted for further information.

Training

Our Plan Administrator reviews with each of our employees at the following times, those parts of the Emergency Action Plan that employees must know to protect themselves in the event of an emergency:

- Initially when the plan is developed,
- Whenever an employee's responsibilities or designated actions under the plan change, and
- Whenever the plan is changed.

The information in this plan is not intended for casual reading, but is intended to get the appropriate message across.

Drills are conducted annually. After a drill, the Plan Administrator judges the effectiveness of the plan and reviews any employee input concerning the drill. Employees performing the drill may identify something that did not follow procedure or was ineffective. For example, they may discover doors that would not open; they may enter storage closets instead of exiting; they may get lost and confused. These are the types of things the Plan Administrator needs to hear about after a drill. That way, they can be addressed before a real emergency.

Emergency Action Diagram

The company Emergency Action Diagram showing the following:

- Exit Locations
- Fire Extinguisher Locations
- Storage Locations for Hazardous/Flammable Materials
- Storage Area for Spill Response Supplies and Personal Protective Equipment
- Tornado Shelters

A copy of this diagram is posted on company bulletin boards and near each exit.

LADDER SAFETY

Purpose

COMELCO, INC. understands that ladders present unique opportunities for unsafe acts and unsafe conditions. Employees who use ladders must be trained in proper selection, inspection, use and storage. Improper use of ladders has cause a large percentage of accidents in the workplace are of accidents. Use caution on ladders,

Hazards

Falls from ladders can result in broken bones, crippling injuries and death. Ladder safety is taken very seriously by our company. Ladder hazards include:

- Ladders with missing or broken parts.
- Using a ladder with too low a weight rating.
- Using a ladder that is too short for purpose.
- Using metal ladders near electrical wires.
- Using ladders as a working platform.
- Objects falling from ladders.

Inspections

Inspect ladders before each use.

- All rungs and steps are free of oil, grease, dirt, etc.
- All fittings are tight.
- Spreaders or other locking devices are in place.
- Non-skid safety feet are in place.
- No structural defects, all support braces intact.
- Do not use broken ladders. Most ladders cannot be repaired to manufacturer specifications. Throw away all broken ladders.

Storage

Store ladders on sturdy hooks in areas where they cannot be damaged. Store to prevent warping or sagging. Do not hang anything on ladders that are in a stored condition.

Ratings & Limits

Ladder weight ratings

I-A 300 pounds (heavy duty)
I 250 pounds (heavy duty)
II 225 pounds (medium duty)
III 200 pounds (light duty).

Limits on ladder Height.

- A stepladder should be no more than 20 feet high.
- A one-section ladder should be no more than 30 feet.
- An extension ladder can go to 60 feet, but the sections must overlap.

Ladder Setup

The following procedure must be followed to prevent ladder accidents:

- Place ladder on a clean slip free level surface.
- Extend the ladder to have about 4 feet above the top support or work area.
- Anchor the top and bottom of the ladder.
- Place the ladder base 1/4 the height, of the ladder, from the wall when using an extension ladder.
- Never allow more than one person on a ladder.
- Use carriers and tool belts to carry objects up a ladder.
- Do not lean out from the ladder in any direction.
- If you have a fear of heights - don't climb a ladder.
- Do not allow other to work under a ladder in use.

Maintenance

- Keep ladders clean.
- Never replace broken parts unless provided by the original manufacturer.
- Do not attempt to repair broken side rails.
- Keep all threaded fasteners properly adjusted.
- Replace worn steps with parts from manufacturer.

Additional State Requirements

- Safety requirements for portable wood ladders placed in service after April 18, 1999 have to meet the requirements of ANSI A14.1-1994, which is incorporated by reference. Safety requirements for portable wood ladders placed in service on or before April 17, 1999, are based on the ANSI A14.1 provisions in effect at the time such ladders were placed in service.
- Cleat Ladders longer than 30 feet cannot be used.
- The wood side rails of ladders having cleat steps cannot be less than 1 1/2 inches thick and 3 1/2 inches deep (2 by 4 inches nominal).
- Wood cleats need to be inset into side rails not less than 1/2-inch or attached directly to the edge of the side rails. Filler blocks of the thickness of the cleats need to be securely attached to the edge of the rail for the full length between cleats, or equivalent construction. The cleats need to be fastened to each rail by three 10-d wire nails or equivalent.
- The cleats on a double cleat ladder must extend the full width of the ladder.

Extra requirements for portable metal ladders include the following:

- Cross-bracing on the rear section of stepladders cannot be used for climbing unless the ladders are designed and provided with steps for climbing on both front and rear sections.
- These ladders cannot be used near electrical circuits if there is a risk of coming in contact with the circuits. The ladders need to be legibly marked with “CAUTION—Do Not Use Around Electrical Equipment” or equivalent.

Extra requirements for fixed ladders include the following:

- If materials other than steel, aluminum, and wood are used, they must meet the design, fabrication, and erection requirements.
- Wood ladders may be coated with a clear sealant after inspection.

SCAFFOLDING SAFETY

Purpose

It is this company's purpose in issuing these procedures to further ensure a safe workplace based on the following formal, written procedures for scaffold work. These procedures will be reviewed and updated as needed to comply with new OSHA regulations, new best practices in scaffolding, and as business practices demand. [RSO Name], RSO is the plan coordinator/manager and is responsible for its implementation. Copies of the written program may be obtained at the RSO's office.

Application

This general scaffold plan applies to:

- All employees who perform work while on a scaffold.
- All employees who are involved in erecting, disassembling, moving, operating, repairing, maintaining, or inspecting scaffolds.

Capacity

Taking into account the OSHA rules we must apply and the engineering/manufacturing requirements of our scaffolds, the following rules apply:

- Each scaffold and scaffold component we use will support, without failure, its own weight and at least four times the maximum intended load applied or transmitted to it.
- When we use non-adjustable suspension scaffolds, each suspension rope, including connecting hardware, will support, without failure, at least six times the maximum intended load applied or transmitted to that rope.
- Direct connections to roofs and floors, and counterweights used to balance adjustable suspension scaffolds, shall be capable of resisting at least 4 times the tipping moment imposed by the scaffold operating at the rated load of the hoist, or 1.5 (minimum) times the tipping moment imposed by the scaffold operating at the stall load of the hoist, whichever is greater.
- Each suspension rope, including connecting hardware, used on non-adjustable suspension scaffolds shall be capable of supporting, without failure, at least 6 times the maximum intended load applied or transmitted to that rope.
- Each suspension rope, including connecting hardware, used on adjustable suspension scaffolds shall be capable of supporting, without failure, at least 6 times the maximum intended load applied or transmitted to that rope with the scaffold operating at either the rated load of the hoist, or 2 (minimum) times the stall load of the hoist, whichever is greater.
- The stall load of any scaffold hoist shall not exceed 3 times its rated load.
- Scaffolds shall be designed by a qualified person and shall be constructed and loaded in accordance with that design.

Platform Construction

This section documents the procedures and safety requirements we use to construct our scaffold platforms.

The following safety rules apply for this scaffold platform construction:

- Each platform on all working levels of scaffolds shall be fully planked or decked between the front uprights and the guardrail supports as follows:

    - Each platform unit (e.g., scaffold plank, fabricated plank, fabricated deck, or fabricated platform) shall be installed so that the space between adjacent units and the space between the platform and the uprights is no more than 1 inch (2.5 cm) wide, except where the employer can demonstrate that a wider space is necessary (for example, to fit around uprights when side brackets are used to extend the width of the platform).
    - Where the employer makes the demonstration provided for in the OSHA regulations, the platform shall be planked or decked as fully as possible and the remaining open space between the platform and the uprights shall not exceed 9 1/2 inches (24.1 cm).
    - The requirement in the OSHA regulation to provide full planking or decking does not apply to platforms used solely as walkways or solely by employees performing scaffold erection or dismantling. In these situations, only the planking that the employer establishes is necessary to provide safe working conditions is required.
- Each scaffold platform and walkway shall be at least 18 inches (46 cm) wide.
- Each ladder jack scaffold, top plate bracket scaffold, roof bracket scaffold, and pump jack scaffold shall be at least 12 inches (30 cm) wide. There is no minimum width requirement for boatswains' chairs.
- Where scaffolds must be used in areas that the employer can demonstrate are so narrow that platforms and walkways cannot be at least 18 inches (46 cm) wide, such platforms and walkways shall be as wide as feasible, and employees on those platforms and walkways shall be protected from fall hazards by the use of guardrails and/or personal fall arrest systems. T
- he front edge of all platforms shall not be more than 14 inches (36 cm) from the face of the work, unless guardrail systems are erected along the front edge and/or personal fall arrest systems are used in accordance with applicable OSHA regulations to protect employees from falling.
- The maximum distance from the face for outrigger scaffolds shall be 3 inches (8 cm).
- The maximum distance from the face for plastering and lathing operations shall be 18 inches (46 cm).
- Each end of a platform, unless cleated or otherwise restrained by hooks or equivalent means, shall extend over the centerline of its support at least 6 inches (15 cm).
- Each end of a platform 10 feet or less in length shall not extend over its support more than 12 inches (30 cm) unless the platform is designed and installed so that the cantilevered portion of the platform is able to support employees and/or materials without tipping, or has guardrails which block employee access to the cantilevered end.
- Each platform greater than 10 feet in length shall not extend over its support more than 18 inches (46 cm), unless it is designed and installed so that the cantilevered portion of the platform is able to support employees without tipping, or has guardrails which block employee access to the cantilevered end.
- On scaffolds where scaffold planks are abutted to create a long platform, each abutted end shall rest on a separate support surface. This provision does not preclude the use of common support members, such as "T" sections, to support abutting planks, or hook on platforms designed to rest on common supports.
- On scaffolds where platforms are overlapped to create a long platform, the overlap shall occur only over supports, and shall not be less than 12 inches (30 cm) unless the platforms are nailed together or otherwise restrained to prevent movement.
- At all points of a scaffold where the platform changes direction, such as turning a corner, any platform that rests on a bearer at an angle other than a right angle shall be laid first, and platforms which rest at right angles over the same bearer shall be laid second, on top of the first platform.
- Wood platforms shall not be covered with opaque finishes, except that platform edges may be covered or marked for identification. Platforms may be coated periodically with wood

preservatives, fire-retardant finishes, and slip-resistant finishes; however, the coating may not obscure the top or bottom wood surfaces.

- Scaffold components manufactured by different manufacturers shall not be intermixed unless the components fit together without force and the scaffold's structural integrity is maintained by the user. Scaffold components manufactured by different manufacturers shall not be modified in order to intermix them unless a competent person determines the resulting scaffold is structurally sound.
- Scaffold components made of dissimilar metals shall not be used together unless a competent person has determined that galvanic action will not reduce the strength of any component to a level below that required by OSHA regulations.

Supported Scaffolds

Supported scaffolds with a height to base width (including outrigger supports, if used) ratio of more than four to one (4:1) shall be restrained from tipping by guying, tying, bracing, or equivalent means, as follows:

Guys, ties, and braces shall be installed at locations where horizontal members support both inner and outer legs.

Guys, ties, and braces shall be installed according to the scaffold manufacturer's recommendations or at the closest horizontal member to the 4:1 height and be repeated vertically at locations of horizontal members every 20 feet (6.1 m) or less thereafter for scaffolds 3 feet (0.91 m) wide or less, and every 26 feet (7.9 m) or less thereafter for scaffolds greater than 3 feet (0.91 m) wide. The top guy, tie or brace of completed scaffolds shall be placed no further than the 4:1 height from the top. Such guys, ties and braces shall be installed at each end of the scaffold and at horizontal intervals not to exceed 30 feet (9.1 m) (measured from one end [not both] towards the other).

Ties, guys, braces, or outriggers shall be used to prevent the tipping of supported scaffolds in all circumstances where an eccentric load, such as a cantilevered work platform, is applied or is transmitted to the scaffold.

Supported scaffold poles, legs, posts, frames, and uprights shall bear on base plates and mud sills or other adequate firm foundation.

Footings shall be level, sound, rigid, and capable of supporting the loaded scaffold without settling or displacement.

Unstable objects shall not be used to support scaffolds or platform units.

Unstable objects shall not be used as working platforms.

Front-end loaders and similar pieces of equipment shall not be used to support scaffold platforms unless they have been specifically designed by the manufacturer for such use.

Forklifts shall not be used to support scaffold platforms unless the entire platform is attached to the fork and the forklift is not moved horizontally while the platform is occupied.

Supported scaffold poles, legs, posts, frames, and uprights shall be plumb and braced to prevent swaying and displacement.

Suspension Scaffolds

- All suspension scaffold support devices, such as outrigger beams, cornice hooks, parapet clamps, and similar devices, shall rest on surfaces capable of supporting at least 4 times the load imposed on them by the scaffold operating at the rated load of the hoist (or at least 1.5 times the load imposed on them by the scaffold at the stall capacity of the hoist, whichever is greater).
- Suspension scaffold outrigger beams, when used, shall be made of structural metal or equivalent strength material, and shall be restrained to prevent movement.
- The inboard ends of suspension scaffold outrigger beams shall be stabilized by bolts or other direct connections to the floor or roof deck, or they shall have their inboard ends stabilized by counterweights, except masons' multi-point adjustable suspension scaffold outrigger beams shall not be stabilized by counterweights.
- Before the scaffold is used, direct connections shall be evaluated by a competent person who shall confirm, based on the evaluation, that the supporting surfaces are capable of supporting the loads to be imposed. In addition, masons' multi-point adjustable suspension scaffold connections shall be designed by an engineer experienced in such scaffold design.
- Counterweights shall be made of non-flowable material. Sand, gravel and similar materials that can be easily dislocated shall not be used as counterweights.
- Only those items specifically designed as counterweights shall be used to counterweight scaffold systems. Construction materials such as, but not limited to, masonry units and rolls of roofing felt, shall not be used as counterweights.
- Counterweights shall be secured by mechanical means to the outrigger beams to prevent accidental displacement.
- Counterweights shall not be removed from an outrigger beam until the scaffold is disassembled.
- Outrigger beams which are not stabilized by bolts or other direct connections to the floor or roof deck shall be secured by tiebacks.
- Tiebacks shall be equivalent in strength to the suspension ropes.
- Outrigger beams shall be placed perpendicular to its bearing support (usually the face of the building or structure). However, where the employer can demonstrate that it is not possible to place an outrigger beam perpendicular to the face of the building or structure because of obstructions that cannot be moved, the outrigger beam may be placed at some other angle, provided opposing angle tiebacks are used.
- Tiebacks shall be secured to a structurally sound anchorage on the building or structure. Sound anchorages include structural members, but do not include standpipes, vents, other piping systems, or electrical conduit.
- Tiebacks shall be installed perpendicular to the face of the building or structure, or opposing angle tiebacks shall be installed. Single tiebacks installed at an angle are prohibited.
- Suspension scaffold outrigger beams shall be:
    - Provided with stop bolts or shackles at both ends;
    - Securely fastened together with the flanges turned out when channel iron beams are used in place of I-beams;
    - Installed with all bearing supports perpendicular to the beam center line;
    - Set and maintained with the web in a vertical position; and
    - When an outrigger beam is used, the shackle or clevis with which the rope is attached to the outrigger beam shall be placed directly over the centerline of the stirrup.
- Suspension scaffold support devices such as cornice hooks, roof hooks, roof irons, parapet clamps, or similar devices shall be:
    - Made of steel, wrought iron, or materials of equivalent strength;

    - Supported by bearing blocks; and
    - Secured against movement by tiebacks installed at right angles to the face of the building or structure, or opposing angle tiebacks shall be installed and secured to a structurally sound point of anchorage on the building or structure. Sound points of anchorage include structural members, but do not include standpipes, vents, other piping systems, or electrical conduit.
- Tiebacks shall be equivalent in strength to the hoisting rope.
- When winding drum hoists are used on a suspension scaffold, they shall contain not less than four wraps of the suspension rope at the lowest point of scaffold travel. When other types of hoists are used, the suspension ropes shall be long enough to allow the scaffold to be lowered to the level below without the rope end passing through the hoist, or the rope end shall be configured or provided with means to prevent the end from passing through the hoist.
- The use of repaired wire rope as suspension rope is prohibited.
- Wire suspension ropes shall not be joined together except through the use of eye splice thimbles connected with shackles or coverplates and bolts.
- The load end of wire suspension ropes shall be equipped with proper size thimbles and secured by eyesplicing or equivalent means.
- Ropes shall be inspected for defects by a competent person prior to each workshift and after every occurrence which could affect a rope's integrity. Ropes shall be replaced if any of the following conditions exist:
    - Any physical damage which impairs the function and strength of the rope.
    - Kinks that might impair the tracking or wrapping of rope around the drum(s) or sheave(s).
    - Six randomly distributed broken wires in one rope lay or three broken wires in one strand in one rope lay.
    - Abrasion, corrosion, scrubbing, flattening or peening causing loss of more than one-third of the original diameter of the outside wires.
    - Heat damage caused by a torch or any damage caused by contact with electrical wires.
    - Evidence that the secondary brake has been activated during an overspeed condition and has engaged the suspension rope.
- Swaged attachments or spliced eyes on wire suspension ropes shall not be used unless they are made by the wire rope manufacturer or a qualified person.
- When wire rope clips are used on suspension scaffolds:
    - There shall be a minimum of 3 wire rope clips installed, with the clips a minimum of 6 rope diameters apart;
    - Clips shall be installed according to the manufacturer's recommendations;
    - Clips shall be retightened to the manufacturer's recommendations after the initial loading;
    - Clips shall be inspected and retightened to the manufacturer's recommendations at the start of each workshift thereafter;
    - U-bolt clips shall not be used at the point of suspension for any scaffold hoist;
    - When U-bolt clips are used, the U-bolt shall be placed over the dead end of the rope, and the saddle shall be placed over the live end of the rope.
- Suspension scaffold power-operated hoists and manual hoists shall be tested by a qualified testing laboratory.
- Gasoline-powered equipment and hoists shall not be used on suspension scaffolds.
- Gears and brakes of power-operated hoists used on suspension scaffolds shall be enclosed.
- In addition to the normal operating brake, suspension scaffold power-operated hoists and manually operated hoists shall have a braking device or locking pawl which engages automatically when a hoist makes either of the following uncontrolled movements: an instantaneous change in momentum or an accelerated overspeed.

- Manually operated hoists shall require a positive crank force to descend.
- Two-point and multi-point suspension scaffolds shall be tied or otherwise secured to prevent them from swaying, as determined to be necessary based on an evaluation by a competent person. Window cleaners' anchors shall not be used for this purpose.
- Devices whose sole function is to provide emergency escape and rescue shall not be used as working platforms. This provision does not preclude the use of systems which are designed to function both as suspension scaffolds and emergency systems.

Gaining Access to Scaffolds

We know that getting to the working platform is critical to the safety of our employees. This section outlines the mechanical requirements for gaining access to scaffold platforms such as: (1) ladders, (2) ramps and walkways, (3) stairrails, and (4) direct access from another scaffold. This section is divided into two parts. The first part is for workers gaining access to scaffold platforms to do work; the second part is access for employees erecting and dismantling scaffolds.

Working Employees

- When scaffold platforms are more than 2 feet (0.6 m) above or below a point of access, portable ladders, hook-on ladders, attachable ladders, stair towers (scaffold stairways/towers), stairway-type ladders (such as ladder stands), ramps, walkways, integral prefabricated scaffold access, or direct access from another scaffold, structure, personnel hoist, or similar surface shall be used. Crossbraces shall not be used as a means of access.
- Portable, hook-on, and attachable ladders (Additional requirements for the proper construction and use of portable ladders are contained in subpart X of this part -- Stairways and Ladders):
- Portable, hook-on, and attachable ladders shall be positioned so as not to tip the scaffold;
- Hook-on and attachable ladders shall be positioned so that their bottom rung is not more than 24 inches (61 cm) above the scaffold supporting level;
- When hook-on and attachable ladders are used on a supported scaffold more than 35 feet (10.7 m) high, they shall have rest platforms at 35-foot (10.7 m) maximum vertical intervals.
- Hook-on and attachable ladders shall be specifically designed for use with the type of scaffold used;
- Hook-on and attachable ladders shall have a minimum rung length of 11 1/2 inches (29 cm); and
- Hook-on and attachable ladders shall have uniformly spaced rungs with a maximum spacing between rungs of 16 3/4 inches.
- Stairway-type ladders shall:
    - Be positioned such that their bottom step is not more than 24 inches (61 cm) above the scaffold supporting level;
    - Be provided with rest platforms at 12 foot (3.7 m) maximum vertical intervals;
    - Have a minimum step width of 16 inches (41 cm), except that mobile scaffold stairway-type ladders shall have a minimum step width of 11 1/2 inches (30 cm); and
    - Have slip-resistant treads on all steps and landings.
- Stairtowers (scaffold stairway/towers) shall be positioned such that their bottom step is not more than 24 inches (61 cm.) above the scaffold supporting level.
- A stairrail consisting of a toprail and a midrail shall be provided on each side of each scaffold stairway.
- The toprail of each stairrail system shall also be capable of serving as a handrail, unless a separate handrail is provided.

- Handrails, and toprails that serve as handrails, shall provide an adequate handhold for employees grasping them to avoid falling.
- Stairrail systems and handrails shall be surfaced to prevent injury to employees from punctures or lacerations, and to prevent snagging of clothing.
- The ends of stairrail systems and handrails shall be constructed so that they do not constitute a projection hazard.
- Handrails, and toprails that are used as handrails, shall be at least 3 inches (7.6 cm) from other objects.
- Stairrails shall be not less than 28 inches (71 cm) nor more than 37 inches (94 cm) from the upper surface of the stairrail to the surface of the tread, in line with the face of the riser at the forward edge of the tread.
- A landing platform at least 18 inches (45.7 cm) wide by at least 18 inches (45.7 cm) long shall be provided at each level.
- Each scaffold stairway shall be at least 18 inches (45.7 cm) wide between stairrails.
- Treads and landings shall have slip-resistant surfaces.
- Stairways shall be installed between 40 degrees and 60 degrees from the horizontal.
- Guardrails meeting the requirements of paragraph (g)(4) of this section shall be provided on the open sides and ends of each landing.
- Riser height shall be uniform, within 1/4 inch, (0.6 cm) for each flight of stairs. Greater variations in riser height are allowed for the top and bottom steps of the entire system, not for each flight of stairs.
- Tread depth shall be uniform, within 1/4 inch, for each flight of stairs.

Ramps & Walkways

- Ramps and walkways 6 feet (1.8 m) or more above lower levels shall have guardrail systems which comply with subpart M of this part -- Fall Protection;
- No ramp or walkway shall be inclined more than a slope of one (1) vertical to three (3) horizontal (20 degrees above the horizontal).
- If the slope of a ramp or a walkway is steeper than one (1) vertical in eight (8) horizontal, the ramp or walkway shall have cleats not more than fourteen (14) inches (35 cm) apart which are securely fastened to the planks to provide footing.
- Integral prefabricated scaffold access frames shall:
    - Be specifically designed and constructed for use as ladder rungs;
    - Have a rung length of at least 8 inches (20 cm);
    - Not be used as work platforms when rungs are less than 11 1/2 inches in length, unless each affected employee uses fall protection, or a positioning device, which complies with applicable OSHA regulations;
    - Be uniformly spaced within each frame section;
    - Be provided with rest platforms at 35-foot (10.7 m) maximum vertical intervals on all supported scaffolds more than 35 feet (10.7 m) high; and
    - Have a maximum spacing between rungs of 16 3/4 inches (43 cm). Non-uniform rung spacing caused by joining end frames together is allowed, provided the resulting spacing does not exceed 16 3/4 inches (43 cm).
- Steps and rungs of ladder and stairway type access shall line up vertically with each other between rest platforms.
- Direct access to or from another surface shall be used only when the scaffold is not more than 14 inches (36 cm) horizontally and not more than 24 inches (61 cm) vertically from the other surface.

Erecting & Dismantling

Our company shall provide safe means of access for each employee erecting or dismantling a scaffold where the provision of safe access is feasible and does not create a greater hazard. We shall have a competent person determine whether it is feasible or would pose a greater hazard to provide, and have employees use a safe means of access. This determination shall be based on site conditions and the type of scaffold being erected or dismantled.

Hook-on or attachable ladders shall be installed as soon as scaffold erection has progressed to a point that permits safe installation and use.

When erecting or dismantling tubular welded frame scaffolds, (end) frames, with horizontal members that are parallel, level and are not more than 22 inches apart vertically may be used as climbing devices for access, provided they are erected in a manner that creates a usable ladder and provides good hand hold and foot space.

Cross braces on tubular welded frame scaffolds shall not be used as a means of access or egress.

Fall Protection Plan

Fall protection planning is critical to the safety and well being of our employees. Our fall protection plan follows the OSHA requirements that are different depending on the type of scaffold we are using. In this plan we address fall protection for our scaffold erectors and dismantlers separately.

One fact never changes. We know we must provide fall protection for any employee on a scaffold more than 10 feet above a lower level.

Working Employees

This fall protection plan for our working employees is for the following type(s) of scaffold(s):

- Single- or two-point adjustable suspension scaffold-We will protect each employee on our single- or two-point adjustable suspension scaffolds by a personal fall arrest system. Our personal fall arrest systems:
    - Meet the requirements of applicable OSHA regulations.
    - Are attached by lanyard to a vertical lifeline, horizontal lifeline, or scaffold structural member.
        - NOTE: Vertical lifelines shall not be used when overhead components, such as overhead protection or additional platform levels, are part of a single-point or two-point adjustable suspension scaffold.
    - When vertical lifelines are used, they shall be fastened to a fixed safe point of anchorage, shall be independent of the scaffold, and shall be protected from sharp edges and abrasion. Safe points of anchorage include structural members of buildings, but do not include standpipes, vents, other piping systems, electrical conduit, outrigger beams, or counterweights.
    - When horizontal lifelines are used, they shall be secured to two or more structural members of the scaffold, or they may be looped around both suspension and independent suspension lines (on scaffolds so equipped) above the hoist and brake attached to the end of the scaffold. Horizontal lifelines shall not be attached only to the suspension ropes.

- When lanyards are connected to horizontal lifelines or structural members on a single-point or two-point adjustable suspension scaffold, the scaffold shall be equipped with additional independent support lines and automatic locking devices capable of stopping the fall of the scaffold in the event one or both of the suspension ropes fail. The independent support lines shall be equal in number and strength to the suspension ropes.
- Vertical lifelines, independent support lines, and suspension ropes shall not be attached to each other, nor shall they be attached to or use the same point of anchorage, nor shall they be attached to the same point on the scaffold or personal fall arrest system.]
- Self-contained adjustable scaffold supported by the frame structure-We will protect each employee on our self-contained, frame structure supported, adjustable scaffolds by a guardrail system. The guardrail system:
    - Has a minimum 200-pound toprail capacity.
    - Will be installed before being released for use by our employees.
    - Guardrail systems shall be installed along all open sides and ends of platforms.
    - Guardrail systems shall be installed before the scaffold is released for use by employees other than erection/dismantling crews.
    - The top edge height of toprails or equivalent member on supported scaffolds manufactured or placed in service after January 1, 2000 shall be installed between 38 inches (0.97 m) and 45 inches (1.2 m) above the platform surface. The top edge height on supported scaffolds manufactured and placed in service before January 1, 2000, and on all suspended scaffolds where both a guardrail and a personal fall arrest system are required shall be between 36 inches (0.9 m) and 45 inches (1.2 m). When conditions warrant, the height of the top edge may exceed the 45-inch height, provided the guardrail system meets all other criteria of applicable OSHA regulations.
    - When midrails, screens, mesh, intermediate vertical members, solid panels, or equivalent structural members are used, they shall be installed between the top edge of the guardrail system and the scaffold platform.
    - When midrails are used, they shall be installed at a height approximately midway between the top edge of the guardrail system and the platform surface.
    - When screens and mesh are used, they shall extend from the top edge of the guardrail system to the scaffold platform, and along the entire opening between the supports.
    - When intermediate members (such as balusters or additional rails) are used, they shall not be more than 19 inches (48 cm) apart.
    - Each toprail or equivalent member of a guardrail system shall be capable of withstanding, without failure, a force applied in any downward or horizontal direction at any point along its top edge of at least 100 pounds (445 n) for guardrail systems installed on single-point adjustable suspension scaffolds or two-point adjustable suspension scaffolds, and at least 200 pounds (890 n) for guardrail systems installed on all other scaffolds.
    - When the loads specified in the applicable OSHA regulation are applied in a downward direction, the top edge shall not drop below the height above the platform surface that is prescribed in the OSHA regulation.
    - Midrails, screens, mesh, intermediate vertical members, solid panels, and equivalent structural members of a guardrail system shall be capable of withstanding, without failure, a force applied in any downward or horizontal direction at any point along the midrail or other member of at least 75 pounds (333 n) for guardrail systems with a minimum 100 pound toprail capacity, and at least

150 pounds (666 n) for guardrail systems with a minimum 200 pound toprail capacity.

- Suspension scaffold hoists and non-walk-through stirrups may be used as end guardrails, if the space between the hoist or stirrup and the side guardrail or structure does not allow passage of an employee to the end of the scaffold.
- Guardrails shall be surfaced to prevent injury to an employee from punctures or lacerations, and to prevent snagging of clothing.
- The ends of all rails shall not overhang the terminal posts except when such overhang does not constitute a projection hazard to employees.
- Steel or plastic banding shall not be used as a toprail or midrail.
- Manila or plastic (or other synthetic) rope being used for toprails or midrails shall be inspected by a competent person as frequently as necessary to ensure that it continues to meet the strength requirements of the OSHA regulation.
- Crossbracing is acceptable in place of a midrail when the crossing point of two braces is between 20 inches (0.5 m) and 30 inches (0.8 m) above the work platform or as a toprail when the crossing point of two braces is between 38 inches (0.97 m) and 48 inches (1.3 m) above the work platform. The end points at each upright shall be no more than 48 inches (1.3 m) apart.]

Falling Object Protection

All employees must wear hardhats when working on, assembling, or dismantling scaffolds. This is our primary protection from falling objects. Additionally, we will:

- Install all guardrail systems with openings small enough to prevent passage of potential falling objects.
- Prevent tools, materials, or equipment that inadvertently fell from our scaffolds from striking employees by barricading the area below the scaffold.
- In addition to wearing hardhats each employee on a scaffold shall be provided with additional protection from falling hand tools, debris, and other small objects through the installation of toeboards, screens, or guardrail systems, or through the erection of debris nets, catch platforms, or canopy structures that contain or deflect the falling objects.
- When the falling objects are too large, heavy or massive to be contained or deflected by any of the above-listed measures, the Company will place such potential falling objects away from the edge of the surface from which they could fall and shall secure those materials as necessary to prevent their falling.
- Where there is a danger of tools, materials, or equipment falling from a scaffold and striking employees below, the following provisions apply:
    - The area below the scaffold to which objects can fall shall be barricaded, and employees shall not be permitted to enter the hazard area; or
    - A toeboard shall be erected along the edge of platforms more than 10 feet (3.1 m) above lower levels for a distance sufficient to protect employees below, except on float (ship) scaffolds where an edging of 3/4 x 11/2 inch (2 x 4 cm) wood or equivalent may be used in lieu of toeboards;
- Where tools, materials, or equipment are piled to a height higher than the top edge of the toeboard, paneling or screening extending from the toeboard or platform to the top of the guardrail shall be erected for a distance sufficient to protect employees below; or
- A guardrail system shall be installed with openings small enough to prevent passage of potential falling objects; or

- A canopy structure, debris net, or catch platform strong enough to withstand the impact forces of the potential falling objects shall be erected over the employees below.
- Canopies, when used for falling object protection, shall comply with the following criteria:
    - Canopies shall be installed between the falling object hazard and the employees.
    - When canopies are used on suspension scaffolds for falling object protection, the scaffold shall be equipped with additional independent support lines equal in number to the number of points supported, and equivalent in strength to the strength of the suspension ropes.
    - Independent support lines and suspension ropes shall not be attached to the same points of anchorage.
- Where used, toeboards shall be:
    - Capable of withstanding, without failure, a force of at least 50 pounds (222 n) applied in any downward or horizontal direction at any point along the toeboard (toeboards built in accordance with Appendix A to this subpart will be deemed to meet this requirement); and
    - At least three and one-half inches (9 cm) high from the top edge of the toeboard to the level of the walking/working surface. Toeboards shall be securely fastened in place at the outermost edge of the platform and have not more than 1/4 inch (0.7 cm) clearance above the walking/working surface. Toeboards shall be solid or with openings not over one inch (2.5 cm) in the greatest dimension

Using Scaffolds

Site preparation, scaffold erection, fall protection, and gaining access to the working platform are only some of the requirements for scaffold work. While this all takes concentration and safe work practices, the most dangerous time can be when employees are concentrating on their work and not particularly aware of the hazards of working from scaffolds. It is critical that employees who use scaffolds be trained, among other things, in the recognition of the hazards associated with the type of scaffold being used and to understand the procedures to control or minimize those hazards. Our competent person will inspect all scaffolds and scaffold components for visible defects before each work shift, and after any occurrence that could affect a scaffold's structural integrity. However, in addition to that, all users of scaffolds in this company will know and understand the following safety rules:

- Scaffolds and scaffold components will never be loaded in excess of their maximum intended loads or rated capacities.
- Debris must not be allowed to accumulate on platforms.
- The use of shore or lean-to scaffolds is prohibited.
- Scaffolds and scaffold components shall be inspected for visible defects by a competent person before each work shift, and after any occurrence which could affect a scaffold's structural integrity.
- Any part of a scaffold damaged or weakened such that its strength is less than that required by the OSHA regulation shall be immediately tagged out, repaired or replaced, braced to meet those provisions, or removed from service until repaired. An example of tag used in tagging out scaffolding equipment is provided at the back of this program.
- Scaffolds shall not be moved horizontally while employees are on them, unless they have been designed by a registered professional engineer specifically for such movement or, for mobile scaffolds, where the provisions of §1926.452(w) are followed.
- The clearance between scaffolds and power lines shall be as follows: Scaffolds shall not be erected, used, dismantled, altered, or moved such that they or any conductive material handled on them might come closer to exposed and energized power lines.
- Scaffolds and materials may be closer to power lines than specified above where such clearance is necessary for performance of work, and only after the utility company, or electrical system

operator, has been notified of the need to work closer and the utility company, or electrical system operator, has deenergized the lines, relocated the lines, or installed protective coverings to prevent accidental contact with the lines.

- Scaffolds shall be erected, moved, dismantled, or altered only under the supervision and direction of a competent person qualified in scaffold erection, moving, dismantling or alteration. Such activities shall be performed only by experienced and trained employees selected for such work by the competent person.
- Employees shall be prohibited from working on scaffolds covered with snow, ice, or other slippery material except as necessary for removal of such materials.
- Where swinging loads are being hoisted onto or near scaffolds such that the loads might contact the scaffold, tag lines or equivalent measures to control the loads shall be used.
- Suspension ropes supporting adjustable suspension scaffolds shall be of a diameter large enough to provide sufficient surface area for the functioning of brake and hoist mechanisms.
- Suspension ropes shall be shielded from heat-producing processes. When acids or other corrosive substances are used on a scaffold, the ropes shall be shielded, treated to protect against the corrosive substances, or shall be of a material that will not be damaged by the substance being used.
- Work on or from scaffolds is prohibited during storms or high winds unless a competent person has determined that it is safe for employees to be on the scaffold and those employees are protected by a personal fall arrest system or wind screens. Wind screens shall not be used unless the scaffold is secured against the anticipated wind forces imposed.
- Debris shall not be allowed to accumulate on platforms.
- Makeshift devices, such as but not limited to boxes and barrels, shall not be used on top of scaffold platforms to increase the working level height of employees.
- Ladders shall not be used on scaffolds to increase the working level height of employees, except on large area scaffolds where employers have satisfied the following criteria:
    - When the ladder is placed against a structure which is not a part of the scaffold, the scaffold shall be secured against the sideways thrust exerted by the ladder;
    - The platform units shall be secured to the scaffold to prevent their movement;
    - The ladder legs shall be on the same platform or other means shall be provided to stabilize the ladder against unequal platform deflection, and
    - The ladder legs shall be secured to prevent them from slipping or being pushed off the platform.
- Platforms shall not deflect more than 1/60 of the span when loaded.
- To reduce the possibility of welding current arcing through the suspension wire rope when performing welding from suspended scaffolds, the following precautions shall be taken, as applicable:
    - An insulated thimble shall be used to attach each suspension wire rope to its hanging support (such as cornice hook or outrigger). Excess suspension wire rope and any additional independent lines from grounding shall be insulated;
    - The suspension wire rope shall be covered with insulating material extending at least 4 feet (1.2 m) above the hoist. If there is a tail line below the hoist, it shall be insulated to prevent contact with the platform. The portion of the tail line that hangs free below the scaffold shall be guided or retained, or both, so that it does not become grounded;
    - Each hoist shall be covered with insulated protective covers;
    - In addition to a work lead attachment required by the welding process, a grounding conductor shall be connected from the scaffold to the structure. The size of this conductor shall be at least the size of the welding process work lead, and this conductor shall not be in series with the welding process or the work piece;

- If the scaffold grounding lead is disconnected at any time, the welding machine shall be shut off; and
- An active welding rod or uninsulated welding lead shall not be allowed to contact the scaffold or its suspension system.

Prohibited Practices

The following practices will never be tolerated in this company:

- Scaffold components manufactured by different manufacturers will never be intermixed unless the components fit together without force and the scaffold's structural integrity is maintained.
- Unstable objects will never be used to support scaffolds or platform units. Footings must be level, sound, rigid, and capable of supporting the loaded scaffold without settling or displacement.
- Crossbraces will never be used as a means of access.
- The use of shore or lean-to scaffolds is prohibited.

Aerial Lifts

Anytime aerial lifts, including: (1) extensible boom platforms, (2) aerial ladders, (3) articulating boom platforms, (4) vertical towers, or (5) a combination of any such devices, are used to elevate employees to job-sites above ground, the following safety rules will apply:

- No aerial lift this company owns or uses will be 'field modified' for uses other than those intended by the manufacturer unless:
  - the manufacturer certifies the modification in writing, or
  - any other equivalent entity, such as a nationally recognized testing lab, certifies the aerial lift modification conforms to all applicable provisions of ANSI A92.2-1969, and the OSHA rules. The lift must be at least as safe as the equipment was before modification.

Ladder Trucks and Tower Trucks

Aerial ladders must be secured in the lower traveling position by the locking device on top of the truck cab, and the manually operated device at the base of the ladder before the truck is moved for highway travel.

Extensible & Articulating Boom Platforms

- We will test lift controls each day prior to use to determine they are in safe working condition.
- Only authorized employees can operate an aerial lift.
- A body belt must be worn and a lanyard attached to the boom or basket when working from an aerial lift.

[* No aerial lift this company owns or uses will be "field modified" for uses other than those intended by the manufacturer unless: (1) the manufacturer certifies the modification in writing, or (2) any other equivalent entity, such as a nationally recognized testing lab, certifies the aerial lift modification conforms to all applicable provisions of ANSI A92.2-1969, and the OSHA rules. The lift must be at least as safe as the equipment was before modification.]

Duties of Competent & Qualified Persons

When working with scaffolds in this company there are some tasks that must be done by our competent or a qualified person. By definition they are:

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

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

The following tasks will only be done by the person we have deemed competent or qualified to perform them:

Competent Person(s):

We will not intermix scaffold components manufactured by different manufacturers unless the components fit together without force and the scaffold's structural integrity is maintained. Scaffold components manufactured by different manufacturers will not be modified in order to intermix them unless our competent person determines the resulting scaffold is structurally sound.

Before a suspension scaffold is used, direct connections must be evaluated by our competent person who will confirm, based on the evaluation, that the supporting surfaces are capable of supporting the loads to be imposed.

Prior to each work shift and after every occurrence that could affect a rope's integrity, suspension scaffold ropes will be inspected by our competent person. Ropes will be replaced if any of the conditions outlined in the OSHA regulations exist.

Scaffolds will be erected, moved, dismantled, or altered only under the supervision and direction of a competent person.

Qualified Person(s)

Scaffolds must be designed by a qualified person and shall be constructed and loaded in accordance with that design.

Swaged attachments or spliced eyes on wire suspension ropes of suspension scaffolds will not be used unless they are made by the wire rope manufacturer or a qualified person.

We will have each employee who performs work while on a scaffold trained by a person qualified in the subject matter to recognize the hazards associated with the type of scaffold being used and to understand the procedures to control or minimize those hazards.

NOTE: *Only qualified and competent personnel are allowed to modify scaffolding systems. Non-qualified personnel may create more hazards. If modifications are attempted by non-qualified personnel they will be subject to disciplinary action up to and including termination of employment.*

Inspections

A competent person will conduct all inspections of scaffolding.

Training

Recognizing the need for training for employees who: (1) perform work while on scaffolds, (2) are involved in erecting, disassembling, moving, operating, repairing, maintaining, or inspecting scaffolds, and (3) have lost the requisite proficiency, training is one of the highest priority of this program.

Employees Who Use Scaffolds

Our employees who perform work on scaffolds will be trained by a qualified person to recognize the hazards associated with the type of scaffold being used and to understand the procedures to control or minimize those hazards. The training will include the following areas as applicable:

- The nature of and the correct procedures for dealing with electrical hazards.
- The nature of and the correct procedures for erecting, maintaining, and disassembling the fall protection and falling object protection systems used.
- The proper use of the scaffold, and the proper handling of materials on the scaffold.
- The maximum intended load and the load-carrying capacities of the scaffolds used.
- Tagging out of scaffolds.
- Any other pertinent requirements of the OSHA rules.

Employees Who Erect, Disassemble, Move, Operate, Repair, Maintain, or Inspect Scaffolds

Our employees who erect, disassemble, move, operate, repair, maintain, or inspect scaffolds will be trained by our competent person to recognize the hazards associated with the work being done. The training will include the following topics as applicable:

- The nature of scaffold hazards.
- The correct procedures for erecting, disassembling, moving, operating, repairing, inspecting, and maintaining the type of scaffold in question.
- The design criteria, maximum intended load-carrying capacity, and intended use of the scaffold.
- Tagging out of scaffolds.
- Any other pertinent requirements of this subpart.

Employees Who Need Retraining

When we have reason to believe that one of our employees lacks the skill or understanding needed for safe work involving the erection, use or dismantling of scaffolds, we will retrain the employee so that the requisite proficiency is regained. Retraining will be done in at least the following situations:

- Where changes at the worksite present a hazard about which the employee has not been previously trained.
- Where changes in the types of scaffolds, fall protection, falling object protection, or other equipment present a hazard about which an employee has not been previously trained.
- Where inadequacies in an affected employee's work involving scaffolds indicate that the employee has not retained the requisite proficiency.

Example of tags used to tagout scaffolding equipment.
DANGER. EQUIPMENT TAGGED OUT. MY LIFE IS ON THE LINE.

FORKLIFTS: INSPECTION & SAFE OPERATION

It's hard to imagine any tool more important to materials handling than the powered industrial truck-the forklift. Like many companies, [Company Name] relies on these versatile vehicles to load, unload, and move stock and other materials.

This written Forklift Operation Program establishes guidelines to be followed whenever any of our employees work with powered industrial trucks at this company. The rules established are to be followed to:

- Provide a safe working environment,
- Govern operator use of powered industrial trucks, and
- Ensure proper care and maintenance of powered industrial trucks.

The procedures here establish uniform requirements designed to ensure that powered industrial truck safety training, operation, and maintenance practices are communicated to and understood by the affected employees. These requirements also are designed to ensure that procedures are in place to safeguard the health and safety of all employees.

It is our intent to comply with the requirements of OSHA's regulations. These regulations have requirements for powered industrial truck operations, including that for battery care and charging. We also comply with applicable requirements of design, construction, stability, inspection, testing, maintenance, and operation of ASME/ANSI B56.1-1969, Safety Standard for Low Lift and High Lift Trucks. However, the powered industrial trucks we operate in our storage and maintenance yards and warehouses comply with OSHA regulations.

Administrative Duties

RORY B. BARTON, RSO is our Forklift Operation Program Coordinator, who has overall responsibility for the plan. Copies of this written program may be obtained from the RSO's office.

Training

The RSO will identify all new employees in the employee orientation program and make arrangements with department management to schedule training.

Before we begin training a new employee, our Forklift Operation Program Administrator, [RSO Name] and/or the Area Supervisor, determines if the potential powered industrial truck operator is capable of performing the duties necessary to be a competent and safe driver. This is based upon his/her physical and mental abilities to perform job functions that are essential to the operation of the vehicle.

These capabilities include the level at which the operator must:

- See and hear within reasonably acceptable limits, (this includes the ability to see at a distance and peripherally, and in certain instances, it is also necessary for the driver to discern different colors, primarily red, yellow, and green);
- Endure the physical demands of the job; and
- Endure the environmental extremes of the job, such as the ability of the person to work in areas of excessive cold or heat. An operator must be able to climb onto and off of a truck, to sit in the vehicle for extended periods of time, and to turn his/her body to look in the direction of travel when driving in reverse.

Once our Administrator determines that a potential operator is capable of performing powered industrial truck duties, the following person(s) will conduct initial training and evaluation: RSO and/or Area Supervisors. These instructor(s) have the necessary knowledge, training, and experience to train new powered industrial truck operators.

Initial Training

During an operator's initial training, the instructor(s) combine(s) both classroom instruction and practical training.

Our classroom instruction includes the following formats:

Lecture
Discussion
Video
Handouts

Classroom instruction, itself, covers the following topics:

TRUCK-RELATED:

- Operating instructions, warnings, and precautions for the types of trucks the operator will be authorized to operate;
- Differences between the truck and automobiles;
- Truck controls and instrumentation: where they are located, what they do, and how they work;
- Engine or motor operation;
- Steering and maneuvering;
- Visibility (including restrictions due to loading);
- Fork and attachment adaptation, operation, and use limitations;
- Vehicle capacity;
- Vehicle stability;
- Any vehicle inspection and maintenance that the operator will be required to perform;
- Refueling and/or charging and recharging of batteries;
- Operating limitations;
- Any other operating instructions, warnings, or precautions listed in the operator's manual for the types of vehicle that the employee is being trained to operate.

WORKPLACE-RELATED:

- Surface conditions where the vehicle will be operated;
- Composition of loads to be carried and load stability;
- Load manipulation, stacking, and unstacking;
- Pedestrian traffic in areas where the vehicle will be operated;
- Narrow aisles and other restricted places where the vehicle will be operated;
- Hazardous locations where the vehicle will be operated;
- Ramps and other sloped surfaces that could affect the vehicle's stability;
- Closed environments and other areas where insufficient ventilation or poor vehicle maintenance could cause a buildup of carbon monoxide or diesel exhaust;
- Other unique or potentially hazardous environmental conditions in the workplace that could affect safe operation.

Our practical training includes these formats:

TRUCK-RELATED:

- Operating instructions, warnings, and precautions for the types of trucks the operator will be authorized to operate;
- Differences between the truck and automobiles;
- Truck controls and instrumentation: where they are located, what they do, and how they work;
- Engine or motor operation;
- Steering and maneuvering;
- Visibility (including restrictions due to loading);
- Fork and attachment adaptation, operation, and use limitations;
- Vehicle capacity;
- Vehicle stability;
- Any vehicle inspection and maintenance that the operator will be required to perform;
- Refueling and/or charging and recharging of batteries;
- Operating limitations;
- Any other operating instructions, warnings, or precautions listed in the operator's manual for the types of vehicle that the employee is being trained to operate.

WORKPLACE-RELATED:

- Surface conditions where the vehicle will be operated;
- Composition of loads to be carried and load stability;
- Load manipulation, stacking, and unstacking;
- Pedestrian traffic in areas where the vehicle will be operated;
- Narrow aisles and other restricted places where the vehicle will be operated;
- Hazardous locations where the vehicle will be operated;
- Ramps and other sloped surfaces that could affect the vehicle's stability.
- Closed environments and other areas where insufficient ventilation or poor vehicle maintenance could cause a buildup of carbon monoxide or diesel exhaust;
- Other unique or potentially hazardous environmental conditions in the workplace that could affect safe operation.. All powered industrial truck operators are trained and tested on the equipment they will be driving before they begin their job;
- Each type of powered industrial truck has a different "feel" to it, and that makes operating it slightly different from operating other industrial trucks. The work areas where these trucks are being used also present particular hazards. For these reasons, it is impractical to develop a single "generic" training program that fits all of our powered industrial trucks. Accordingly, during training, [Company Name] covers the operational hazards of our powered industrial trucks, including:
    - General hazards that apply to the operation of all or most powered industrial trucks;
    - Hazards associated with the particular make and model of the truck;
    - Hazards of the workplace in general; and
    - Hazards of the particular workplace where the vehicle is operated.

If each potential operator has received training in any of the elements of our training program, and is evaluated to be competent, they need not be retrained in those elements before initial assignment in our workplace. The training must be specific for the types of trucks that employee will be authorized to operate and for the type of workplace in which the trucks will be operated.

Training Certification

After an employee has completed the training program, the instructor will determine whether the potential driver can safely perform the job. At this point, the trainee will take a performance test or practical exercise through which the instructor(s) will decide if the training has been adequate. All powered industrial truck trainees are tested on the equipment they will be driving.

[RSO Name], RSO is responsible for keeping records certifying that each employee who has successfully completed operator training and testing. Each certificate includes the name of the driver, the date(s) of the training, and the name of the person who did the training and evaluation.

Performance Evaluation

Each certified powered industrial truck operator is evaluated at least once every 3 years to verify that the operator has retained and uses the knowledge and skills needed to drive safely. This evaluation is done by RSO and/or Area Supervisor. If the evaluation shows that the operator is lacking the appropriate skills and knowledge, the operator is retrained by our instructor(s).

Refresher Training

Refresher training is triggered by any of the following situations:

- If the operator is involved in an accident or a near-miss incident;
- If the operator has been observed driving the vehicle in an unsafe manner;
- When the operator is assigned to a different type of truck;
- If it has been determined during an evaluation that the operator needs additional training; or
- When there are changes in the workplace that could affect safe operation of the truck. This could include a different type of paving, reconfiguration of the storage racks, new construction leading to narrower aisles, or restricted visibility.

Current Certified Truck Operators

Under no circumstances shall an employee operate a powered industrial truck until he/she has successfully completed this company's powered industrial truck training program. Regardless of claimed previous experience, all new operators must at least undergo a performance evaluation.

Pre-Operational Inspection Procedures

The company requires operators to perform pre-operational equipment checks on powered industrial trucks prior to the beginning of each shift in which those trucks will be utilized to ensure the safe operating condition of the vehicle. The pre-operational check is performed by completing a daily truck inspection checklist.

See an attached sample form. A supply of these forms is provided in each charging and parking area within user areas.

No blank spaces are allowed on the form. If an item does not apply, we use the code N/A. We also require that operators fill out the comment section thoroughly and accurately if there are any operational or visual defects. That way our Maintenance Department can pinpoint and repair the problem before the truck becomes unsafe to operate.

Our pre-operational inspection procedures used by operators include:

- If a completed checklist form is not present on the powered industrial truck, then the truck may not be operated until a checklist is completed.
- If the powered industrial truck is safe to operate, the operator must:
    - Place the completed checklist form in the holder provided on the vehicle. The checklist must remain in the vehicle's holder for the duration of the shift. This serves as a visual notice to all area operators that this piece of equipment was inspected at the beginning of the shift and may be used during the shift without another inspection.
- At the end of the shift, operators must turn the checklist in to the department/area manager or supervisor. The manager or supervisor is responsible for reviewing the checklists for accuracy, completeness, and any noted defects.
- If the powered industrial truck is unsafe to operate, the operator is to:
    - Remove the key from the powered industrial truck;
    - Place a DANGER DO NOT OPERATE tag on the steering wheel or control lever of the powered industrial truck;
    - Report the problem to his/her immediate supervisor;
    - Not use the truck until the problem has been identified and fixed. No one else may use the truck until the problem has been identified and fixed.

Appropriate disciplinary action will be enforced for anyone violating this policy.

Area Supervisor is responsible for retaining all daily truck inspection checklist forms for each vehicle for 6 months.

Periodic Inspection Procedures

Periodic inspections are in conjunction with the particular powered industrial truck's maintenance or service schedule. Maintenance schedules are normally expressed in days and operating or running hours. Qualified Maintenance Personnel perform(s) inspection and maintenance monthly. Most manufacturers' operator instruction manuals contain the recommended maintenance schedule. Inspections and maintenance or repair beyond the recommended service schedules are done by authorized workshops and/or service technicians.

See an attached sample of our periodic truck inspection checklist. A supply of these forms is provided in each charging and parking area within user departments. Maintenance Department is responsible for retaining all periodic truck inspection checklist forms for each vehicle.

Operating Procedures

Powered industrial trucks can create certain hazards that only safe operation can prevent. That's why we have created sets of operating procedures. Our operating procedures follow.

Driving

Driving a powered industrial truck is fundamentally different than driving a car or other trucks. In fact, powered industrial trucks:

- Are usually steered by the rear wheels,
- Steer more easily loaded than empty,

- Are driven in reverse as often as forward,
- Are often steered with one hand, and
- Have a center of gravity toward the rear, shifting to the front as forks are raised.

Unlike cars, some powered industrial trucks have a greater chance of tipping over when suddenly turned. Because of the design of powered industrial trucks, they have a very short rear wheel swing. This means that, at high speeds, sudden turns can tip them and could result in serious injury and damage. Speed can cause the center of gravity to shift dramatically. Similarly, speeding over rough surfaces can cause tipping.

Although structurally different than cars, powered industrial trucks, like cars, can collide with property and people. Therefore it is our policy for all operators to follow these driving procedures:

- Use only powered industrial trucks approved for the location of use.
- Only start/operate a powered industrial truck from the designated operating location.
- Observe all traffic regulations, including plant speed limits and keeping to the right.
- Yield the right of way to pedestrians and emergency vehicles.
- Maintain safe distances from powered industrial trucks ahead (typically three truck lengths).
- Travel at speeds that will permit vehicles to stop safely at all times, under all road and weather conditions.
- Avoid quick starts/changes of direction.
- Turns must be negotiated by reducing speed and turning the steering wheel with a smooth, sweeping motion.
- Maintain forks in proper position.
- Drive properly in reverse.
- Cross railroad tracks at an angle, never a right angle.
- Do not engage in stunt driving and horseplay.
- Drive slowly over wet or slippery floors.
- When the forks are empty, travel with the forks at a negative pitch as low to the floor as practical. Adjust the height of the forks to a safe level when the operating terrain warrants.
- When operating a narrow aisle reach truck that is unloaded, do not travel until the forks are fully retracted and positioned at a negative pitch as low to the floor as practical.
- Approach elevators slowly and squarely. Once on an elevator, neutralize controls, shut off power, and set the brakes.
- Direct motorized hand trucks into elevators with loads facing forward.
- Do not run over loose objects on roadway surfaces.
- Slow down and sound the horn and look at intersections, corners, and other locations where vision is obstructed.
- Do not pass other trucks traveling in the same direction at intersections, blind spots, or other dangerous locations.
- Maintain a clear view of the direction of travel at all times. Look in direction of travel.
- Keep unauthorized personnel from riding on powered trucks, and provide a safe place to ride where riding on trucks is authorized.
- Keep all body parts within truck.
- Do not allow anyone to place their arms or legs between the uprights of the mast or outside the running lines of the truck.
- Do not drive trucks up to anyone standing in front of a bench or other fixed object.
- A vehicle is considered “unattended” when an operator is 25 feet or more away from a vehicle which remains in view, or whenever an operator leaves a vehicle and it is not in view. Unattended trucks must be secured by:

    - Fully lowering forks or other attachments (when unloaded, tilt the forks forward first and then lower them to the ground until the tips of the forks come in contact with the ground;
    - Neutralizing controls;
    - Shutting off power; and
    - Setting brakes.
- Secure trucks when dismounted operators are within 25 feet of a vehicle still in view by:
    - Fully lowering the load;
    - Neutralizing controls; and
    - Setting brakes.
- Be aware of headroom under overhead installations, lights, pipes, door beams, and sprinkler systems.
- Do not block access to fire or emergency exits, stairways, fire equipment, or electrical panels.
- Sound the horn or other audible warning device at all intersections and corners to warn pedestrians.
- Maintain safe distances from the edges of ramps or platforms while on any elevated dock, platform, or freight car.
- Dockboards and bridgeplates must be secured before vehicles cross over them. Be sure they do not exceed rated weight limits.
- When ascending or descending a grade or incline:
    - Proceed slowly and with caution;
    - Tilt or raise the forks and attachments only as far as necessary to clear the road surface; and
    - Sound the horn before ascending or descending.
- Do not park on inclines, ramps, or dock plates. If you must park on an incline, block the wheels.
- Do not use powered industrial trucks for any purpose other than what they were designed.
- Clean up all fluid leaks (oil, hydraulic, transmission, etc.) from the floor.
- Do not operate a powered industrial truck with a leak in the fuel system until the leak has been corrected.
- If the warning device (like a warning lamp or sound-producing device) comes on, stop the truck as soon as possible.
- Follow manufacturer's recommended emergency procedures for fire or tipover and be familiar with manufacturer's emergency equipment.
- Do not modify a powered industrial truck.
- Report all powered industrial truck accidents involving employees, building structures, and equipment to department management.

Load Lifting and Carrying

Powered industrial trucks can lift only so much. Each truck has its own load capacity, which is indicated on the rating plate. Powered industrial trucks also have three-point suspension that forms an imaginary triangle from the left front wheel to the right front wheel to the point between the two back wheels. The center of gravity for a powered industrial truck must lie somewhere within this triangle or else the truck will tip over. The load and its position on the forks, as well as traveling speed and slopes, all affect the center of gravity. Loads, themselves, have gravity with which to contend. Loads need special care so that they do not fall. In order to prevent tipping and load falling hazards, we have established the following load lifting and carrying procedures:

- Handle loads only within the capacity rating of the truck.
- Use a forking system which suits the load.

- Do not allow anyone to stand or pass under the elevated portion of any truck whether empty or loaded.
- Do not start a powered industrial truck or operate any of its functions or attachments from any position other than from the designated operator's position.
- Keep a clear view of the path of travel and look for other traffic, personnel and safe clearances. If the load being carried obstructs forward view, travel with the load trailing.
- When traveling with a load on the forks, travel with the load as low to the floor as practical with the load tilted back slightly for improved stability.
- When ascending or descending a grade or incline:
    - Drive with the load positioned upgrade or uphill when the truck is loaded.
- When unloading or loading semi-trailers:
    - Engage dock lock mechanism and light before entering the trailer.
    - Check condition of dock leveler plate and trailer floor before entering.
    - Set the brakes of the semi-tractor.
    - Chock the rear wheels of the trailer prior to loading or unloading.
- When unloading or loading the 28 foot trailers:
    - Engage dock lock mechanism and light before entering the trailer.
    - Check condition of dock leveler plate and trailer floor before entering.
    - Be sure the semi-tractor is coupled to the trailer, or the fixed jack on the front of the trailer is lowered to the ground to prevent these two trailers from tipping forward.
    - Set the brakes of the semi-tractor.
    - Chock the rear wheels of the trailer.
- Use the following backup procedure and sequence:
    - Pivot at the waist and inspect the area of operation in the rear of the fork truck, watching for obstructions and pedestrians.
    - Blow the horn to alert any pedestrians that may or may not be visible.
    - Engage the directional lever to the reverse position.
    - Concentrate on the removal of the forks from the load to avoid any load disturbance, as you back the fork truck out of the load.
    - Stop the fork truck 18" to 24" away from the load's resting location and lower the forks to the proper travel height and angle.
- During load placement:
    - Square the fork truck with the load resting location.
    - Stop the fork truck 18" to 24" away from the load resting location.
    - Raise the load to proper entry height.
    - Drive forward with the load and position the load over its resting location.
    - Lower the load to a height of 4" if possible.
    - Tilt the load forward to a level position.
    - Lower the load to its resting platform.
    - Back up the unit using proper back up procedures and sequence.
    - Do not attempt to move loads with broken pallets.
- During load retrieving:
    - Tie together unstable loads.
    - Square the fork truck with the load resting location.
    - Stop the fork truck 18" to 24" away from the load resting location.
    - Raise the forks to eye level and level the forks to a horizontal position.
    - Raise the forks to the proper entry height.
    - Slide the forks into the load and maintain the clearance around the forks to avoid load disturbance. Be sure to place the heaviest part of the load closest to the backrest.

- Raise the load so it is completely suspended from its resting platform. Be sure to support and center the load so that it will not fall forward or sideways.
- Tilt the load back.
- Visually inspect the rear area of the fork truck to ensure no pedestrians are behind or around the unit.
- Back up the unit using proper back up procedures and sequence.
- Back up the fork truck 18" to 24" and stop.
- Know the load limits of elevators.
- Whenever a truck is equipped with vertical only, or vertical and horizontal controls elevatable with the lifting carriage or forks for lifting personnel, use these precautions:
    - Use a safety platform that is firmly secured to the lifting carriage and/or forks.
    - Provide a way for the person on the platform to shut off power to the truck.
    - Provide protection from falling objects.

Fuel Handling and Storage

Some of our powered industrial trucks operate with highly flammable and combustible fuels.

The storage and handling of liquid fuels, including gasoline and diesel fuel are done in accordance with NFPA Flammable and Combustible Liquids Code (NFPA 30-1969).

The storage and handling of liquefied petroleum gas fuel is done in accordance with NFPA Storage and Handling of Liquefied Petroleum Gases (NFPA 58-1969).

All employees who handle or use flammable liquids are instructed by RSO and/or Area Supervisors in their safe handling and use and made aware of the specific OSHA requirements for what they are doing with the liquids. More specifically, employees are instructed in the following procedures:

- The storage and handling of liquid fuels such as gasoline and diesel fuel shall be in accordance with NFPA Flammable and Combustible Liquids Code (NFPA No. 30-1969), which is incorporated by reference as specified in the OSHA standard.
- The storage and handling of liquefied petroleum gas fuel shall be in accordance with NFPA Storage and Handling of Liquefied Petroleum Gases (NFPA No. 58-1969), which is incorporated by reference as specified in the OSHA standard. General industry employers may also find more information under the applicable OSHA standards.

Construction employers may find more information under 29 CFR 1926.152 and 1926.153.

If your employees are required to handle or use flammable liquids they must be instructed in their safe handling and use and be made aware of the specific OSHA requirements for the tasks they perform with the liquids. Here are some good fuel storage and handling procedures you can use:

- Never smoke in fueling areas.
- Prevent open flames, sparks, or electric arcs while fueling.
- Never fuel a powered industrial truck while the engine is running.
- Keep solvent waste, oily rags, and flammable liquids (liquids having a flashpoint below 140 deg. F and capable of being easily ignited, burning intensely, or having a rapid rate of flame spread) in fire resistant covered containers until removed from the workplace.
- To change an liquid petroleum (LP) gas tank:
    - Put on leather work gloves and goggles.
    - Disconnect powered industrial truck valve from the empty LP cylinder.

- Replace with full cylinder.
  NOTE: The pin on the lift truck must fit into the cut out hole(s) provided on the LP cylinder. This is required by law.
- Strap in the cylinder and re-connect the truck valve securely to the cylinder outlet.
- Open cylinder valve and listen for leaks.
- If leaking, close cylinder valve and slowly uncouple the fuel valve. Try to re-connect. If still leaking, try a different cylinder and notify department management of faulty cylinder.
- If no leaks are present, lift truck may be utilized.

Battery Charging and Changing

Batteries present a hazard because they contain corrosive chemical solutions, either acid or alkali. During recharging, a worker may be exposed not only to the acid solution but also to hydrogen gas that is produced during the recharging process. Because of the hazards involved in battery charging and changing, only personnel who have been trained in the appropriate procedures, understand the dangers involved, and know the appropriate precautions to take may be allowed to perform this work.

We have an area in our facility specifically for charging or changing batteries. This area is separate from the main aisles.

Good housekeeping procedures are essential. We keep the area clean and free of any combustible materials. We also maintain a moderate temperature range suitable for battery maintenance.

COMELCO, INC.] has installed the following safety features:

- An eyewash station for workers.
- A hose and floor drain for flushing and neutralizing spilled electrolyte.
- The charging apparatus is protected to prevent damage from vehicles.
- Because we use on-board chargers, our designated charging area meets the electrical requirements of the charger and facility for fire protection.
- Smoking is prohibited in charging areas. Battery charging generates hydrogen gas that may present an explosion hazard. This precaution also applies to open flames, sparks, or electric arcs. An effective means of fire protection must be provided in the area.

Electric lift trucks are an excellent choice for moving materials inside a facility. They are much cleaner and quieter than trucks propelled by liquid fuels and they do not create a carbon monoxide hazard. This type of vehicle, however does have potentially dangerous situations associated with it—hazards that occur during battery recharging or changing.

There are two types of batteries that are commonly used in electric lift trucks: lead and nickel-iron. These batteries present a hazard because they contain corrosive chemical solutions, either acid or alkali. If battery acid is splashed on a person, it will burn the skin; if splashed in the eyes, it can cause blindness; and if it gets on clothing, it will eat holes in it. During recharging, a worker may be exposed not only to the acid solution, but to hydrogen gas which is produced during the recharging process. Hydrogen gas may present an explosive hazard. Therefore, smoking, open flames, sparks, and electric arcs are prohibited in charging areas. An effective means of fire protection must be provided in the area. Because of the hazards involved in battery charging and changing, only personnel who have been trained in the appropriate procedures, understand the dangers involved, and know the appropriate precautions to take should be allowed to perform this work.

Due to the hazards above, it is necessary for the company to:

- Provide battery charging installations located in areas designated for that purpose.
- Provide fire protection, in the form of a fire extinguisher or standpipe system.
- Provide for quick drenching of the eyes and body within 25 feet of battery handling areas.
- Provide facilities for flushing and neutralizing spilled electrolyte.
- Provide a means of protecting charging apparatus from damage by trucks.
- Ventilate the battery charging area to prevent the build-up of hydrogen gas.
- Treat racks and trays to make them resistant to electrolyte in the battery handling area.
- Provide acid resistant floors in the battery handling area unless protected from acid accumulations.
- Provide a conveyor, overhead hoist, or equivalent material handling equipment for handling batteries.
- Provide appropriate personal protective equipment like eye and face protection, gloves, protective footwear, long-sleeved shirts, and aprons.
- Provide an easily accessible first aid kit in the charging/changing area.

Here are some good battery charging/changing procedures:

- When removing battery covers to add or inspect electrolyte levels, wear proper goggles, faceshield, rubber gloves, and an apron. Protective equipment is not required when filling batteries equipped with an automatic filler.
- Wear appropriate foot protection where there is the risk of foot injury.
- If the powered industrial truck is not put on a charge during off shifts or weekends, disconnect the battery plug from the truck plug. NOTE: During normal production operation, the powered industrial truck may remain plugged into the battery when left unattended.
- Do not smoke in the battery charging area.
- Wear hearing protection in the battery charging area if necessary.
- Prevent open flames, sparks, and electric arcs in the battery charging area.
- Keep tools and other metallic objects away from the tops of uncovered batteries.
- Keep the charging area clean.
- Keep the charging area work surface dry and slip-resistant.
- When batteries are being charged, keep the vent caps in place to avoid electrolyte spray.
- Take care to assure that vent caps are functioning. The battery (or compartment) cover(s) must be open to dissipate heat.
- When charging batteries, acid must be poured into water; water must not be poured into acid.
- Provide carboy tilter or siphon for handling electrolyte.
- Clean up spilled materials or liquids in the charging area immediately.
- Test all non-supervised fire alarm systems near battery charging/changing areas bimonthly.
- Test all supervised fire alarm systems (ones that have a device to indicate a system malfunction) yearly.
- Always use a battery replacement that is within the weight range specified on the nameplate of the truck in order to maintain vehicle stability.
- Properly position and secure reinstalled batteries to the truck.
- Securely position and set the brakes of a truck before attempting to change or charge the battery.
- Ensure that all workers in the immediate area of the changing area stay clear when the battery is moved.
- Know where the eyewash station is located.
- Know where the first aid kit is located.

Carbon Monoxide Awareness

Powered industrial trucks with internal combustion engines produce carbon monoxide (CO), an odorless, colorless, and deadly gas produced by the incomplete burning of any material that contains carbon. These materials include gasoline, natural gas, propane, coal, and wood. The most common source of CO is the internal combustion engine. Trucks, cars, forklifts, floor polishers, pressure washers, or any other machine powered by fossil fuels generates CO.

If inhaled, CO restricts the ability of your blood system to carry oxygen to the body tissues that need it. Overexposure combined with less oxygen results in carbon monoxide poisoning. Mild poisoning can result in headaches, tightness in the chest, dizziness, drowsiness, inattention, fatigue, flushed face, or nausea. If you continue exposure lack of coordination, confusion, weakness, or loss of consciousness may result. A heart condition, smoking, taking drugs or alcohol, and pregnancy can aggravate CO poisoning. Physical activity, too, can make a situation worse. That's because your body needs more oxygen to exert itself. Severe poisoning can kill you within minutes, sometimes without warning symptoms. The more CO there is in the air and the longer the exposure, the greater the danger.

DEFINITION OF CO: an odorless, colorless, and deadly gas common in many workplaces and produced by the incomplete burning of any material that contains carbon. These materials include gasoline, natural gas, propane, coal, and wood. The most common source of CO is the internal combustion engine. Trucks, cars, forklifts, floor polishers, pressure washers, or any other machine powered by fossil fuels generates CO.

SYMPTOMS OF CO POISONING

If inhaled, CO restricts the ability of your blood system to carry oxygen to the body tissues which need it. Overexposure combined with less oxygen results in carbon monoxide poisoning. Mild poisoning can result in headaches, tightness in the chest, dizziness, drowsiness, inattention, fatigue, flushed face, or nausea. If you continue exposure lack of coordination, confusion, weakness, or loss of consciousness may result. A heart condition, smoking, taking drugs or alcohol, and pregnancy can aggravate CO poisoning. Physical activity, too, can make a situation worse. That's because your body needs more oxygen to exert itself. Severe poisoning can kill you within minutes, sometimes without warning symptoms. The more CO there is in the air and the longer the exposure, the greater the danger.

[Company Name] will make every attempt to prevent CO poisoning. When feasible and practical the company will:

- Install an effective ventilation system in place if powered industrial trucks are used indoors;
- Purchase trucks which comply with national safety standards;
- Ensure that powered industrial trucks are maintained in good order. Be sure to address the carburetor, air cleaner, and ignition timing;
- Only allow qualified persons to modify powered industrial trucks but only if approved by the manufacturer;
- Use original parts instead of replacement parts when a new part is needed;
- Switch from fossil fuel-powered to battery-powered trucks where possible;
- Use fuels with high octane levels so that fuels will burn slower and more efficiently;
- Try a CO emissions controller to be added to the fuel system to control the mixture of fuel and air. CO controller parts include a computer control box, a warning light, an oxygen sensor, and a solenoid air valve;

- Add a catalytic converter to truck exhaust systems, but only if trucks are used continually during the shift (if converter temperature does not rise above operating temperature, the converter will fail);
- Install CO monitors and regularly test air levels;
- Provides initial and periodic medical exams for exposed workers and instructs workers in the hazards of CO.

WHAT OUR EMPLOYEES CAN DO ABOUT CO

There are a number of approaches employees can take to prevent CO poisoning:

- Inform your safety director of any condition (such as ventilation problems or enclosed areas) that may lead to the formulation or accumulation of carbon monoxide;
- Report complaints immediately;
- Be aware that physical activity can increase the danger of CO poisoning;
- If someone is exposed to CO, take them to fresh air, loosen clothing, give artificial respiration if necessary, contact a doctor, administer oxygen if necessary, and let the victim rest to prevent cardiac or respiratory problems;
- If you become ill, let your doctor know about the possibility of CO poisoning;
- Consider reducing or eliminating any smoking habit (burning tobacco also produces CO resulting in a higher CO level before going to work).

Personal Protective Equipment (PPE)

We have assessed our workplace and determined that the hazards which threaten our operators include:
- Injurious gases, vapors, and liquids;
- Dusts or powders, fumes, and mists;
- Flying objects or particles;
- Foot compression or puncture;
- Slipping;
- Extreme heat or cold;
- Hand cuts, punctures, abrasions, and crushing;
- Electricity;
- Materials handling;
- Falling objects;
- Bumping head or other body part against fixed object;
- Noise;
- Falling from an elevated platform attached to the powered industrial truck;
- Falling out of the powered industrial truck;
- Being crushed by a tipped over powered industrial truck.

For this reason, we require that our powered industrial truck operators wear at least the following PPE and equipment:
- Hard Cap
- Steel-Toed Shoes
- Gloves for Material Handling
- Ear Plugs are required when noise levels exceed the db threshold listed in our Hearing Conservation Program

NOTE: According to a letter of interpretation dated 1/18/94 about ASME/ANSI B56.1-1988, if a powered industrial truck is equipped with a seat belt or other restraining device, the operator must use these devices. This will reduce the risk of entrapment of the head and torso between the truck and the ground.

All operators required to wear this equipment are trained:
- When PPE is necessary;
- What PPE is necessary;
- How to properly put on, take off, adjust, and wear PPE;
- Limitations of the PPE; and
- Proper care, maintenance, useful life, and disposal of PPE.

See the Written Personal Protective Equipment Program for more details.

Pedestrians

Because powered industrial trucks are typically used near pedestrians, we require both pedestrians and powered industrial truck operators to watch out for each other.

All powered industrial truck operators must:
- Yield the right of way to pedestrians and emergency vehicles.
- Sound the horn or other audible warning device at all intersections and corners to warn pedestrians.
- When backing up pivot at the waist and inspect the area of operation to the rear of the powered industrial truck, watching for obstructions and pedestrians and blow the horn to alert any pedestrians that may or may not be visible.
- When retrieving a load and before backing up, visually inspect the rear area of the powered industrial truck to ensure no pedestrians are behind or around the unit.
- Never allow riders on any powered industrial truck.
- Never engage in horseplay.
- Do not allow pedestrians to walk under loads.
- Do not allow anyone to place their arms or legs between the uprights of the mast or outside the running lines of the truck.
- Do not drive trucks up to anyone standing in front of a bench or other fixed object.

All pedestrians must:
- Use designated pedestrian walkways.
- Look out for powered industrial trucks and give them the right of way.
- Listen for horns and other warning devices.
- Use any provided mirrors to assist with vision around corners.
- Do not walk in front of, behind, or beside a powered industrial truck.
- Never walk or stand under a raised load.
- Do not hitch a ride on a powered industrial truck.

Maintenance

Investing time and effort into the proper upkeep of our equipment results in day-to-day reliability. Keeping up with the manufacturer’s recommended maintenance and lubrication schedules, and completing the proper records, will also increase our trucks’ longevity and enhance its resale value.

The Maintenance Department complete(s) a receiving or delivery inspection whenever our company purchases powered industrial trucks, and they perform the recommended “breaking in” inspections and maintenance.

Area Supervisors or the Forklift Operator follow(s) the manufacturer’s operator instruction manual for daily or weekly maintenance.

Periodic maintenance (those completed monthly, every 6 months, or annually) is done by a factory-trained expert or a dealer. Maintenance Department retains all maintenance records.

Additional State Requirements

Some state’s requirements regarding powered industrial trucks include a substantial amount of regulatory information different from federal requirements. A summary of the additional requirements includes the following:

- Industrial trucks in must comply with a variety of national design and construction standards, depending on their date of manufacture.
- Trucks equipped with front-end attachments other than factory installed attachments must be marked to show the capacity of the truck and attachment combination.
- When a conversion kit is installed, the original type designation must be replaced with a durable plate permanently mounted on the truck indicating the type designation of the converted truck.
- Trucks must not be operated in atmospheres containing more than 20 percent of the Lower Explosive Limit of flammable gas or vapor unless approved for the area.
- Batteries must be secured in suitable racks, which are secured to the truck.
- Motorized hand and hand/rider trucks must be designed so that the brakes are applied and the power to the drive motor shut off when the operator releases his grip on the control tongue, or the device used to control travel, except vehicles designed for use in order picking operations.
- Radio remote control vehicles must be equipped with positive means, which restrict the speed of the vehicle to 3.5 mph while it is being operated with radio remote control.
- Counterweights, forks, fork extensions, and other attachments must be affixed so that they cannot be accidentally dislodged.
- Industrial tractors, including tractors used for landscaping, construction, loading, digging, grounds keeping, and highway maintenance (with some exceptions), must be equipped with rollover protective structures.
- Proper seat belt assemblies must be provided on all equipment where rollover protection is installed, and employees must be instructed in their use.
- In industrial tractors, all sharp edges and corners at the operator's station must be treated to minimize operator injury in the event of upset, and batteries, fuel tanks, oil reservoirs, and coolant systems must be constructed and located or sealed to assure that spillage will not occur which might be harmful to the operator in the event of an upset.
- Where vehicles are equipped with rollover protective structures and are subjected to the hazard of falling trees, brush, or the breaking of tow lines or winch cables, such hazards must be protected against using shear or brush deflector guards, or breaking line guards located between the lines and the operator.
- On order pickers and stock pickers, when the operator's platform height exceeds 36 inches, the maximum horizontal speed must not exceed 2.5 miles/hr, and when the platform is over 152 inches high, the truck must not travel.
- Order and stock pickers must have:

    - a warning light activated automatically when the platform is 6 feet or higher and the truck is moved; and
    - a work platform at least 20 inches wide;
    - standard guardrails on all open or exposed sides, or a safety belt or harness with lanyard; and
    - if the employee is exposed to a fall of four feet or more, a personal fall arrest system, personal fall restraint system, or positioning device system.
- Where only stock pickers, order pickers, or side loaders are used in storage access aisles, employers must provide guide rails, electronic guidance systems, or other means of preventing the vehicle from colliding with the storage racks or stored material.
- If employees are lifted using an industrial truck, the platform must:
    - be at least 24" x 24";
    - meet guardrail and toeboard requirements (or be equipped with a safety belt or harness);
    - have no spaces or holes greater than one inch in its floor;
    - have a slip-resistant surface; and
    - not fall faster than 135 feet per minute if the load supporting hydraulic control circuits fail.
- All bridge cranes or other moving or motorized equipment, which could overrun or otherwise injure an elevated worker must be shut down or locked out.
- Before elevating personnel, employees must be instructed in a variety of safety precautions.
- Every end control, reach, narrow aisle and motorized hand/rider truck must be equipped with an operator platform big enough to contain the operator's feet within its periphery.
- The side of the platform nearest the mast frame truss must be guarded on every high-lift industrial truck where employees ride up or down.
- The load backrest extension (or other means preventing parts of the load from falling onto the operator) on high-lift industrial trucks must not any openings larger than the smallest parcel carried.
- Every employer using industrial trucks or industrial tow tractors must post and enforce a set of operating rules.
- Vehicles must not be moved until the operator is certain that all persons are in the clear.
- Motorized hand and hand/rider trucks must be operated on all grades with the load-engaging means downgrade.
- The forks must always be carried as low as possible, consistent with safe operations.
- When a vehicle is left unattended, the mast must be brought to the vertical position.
- Vehicles must not be run onto an elevator unless the driver is specifically authorized to do so. Before entering an elevator, the driver must determine that the capacity of the elevator will not be exceeded.
- When loading or unloading railroad cars, blue flags, or lights must be displayed as required by the Public Utilities Commission.
- The width of one tire on the powered industrial truck must be maintained from the edge while on any elevated dock, platform, freight car, or truck.
- Parking closer than 8-1/2 feet from the centerline of railroad tracks is prohibited.
- When powered industrial trucks are used to open and close doors, a device specifically designed for opening or closing doors must be attached to the truck, the force applied to the door must be applied parallel to the direction of travel of the door, the entire door opening operation must be in full view of the operator, and the operator and other employees must be clear of the area where the door might fall while being opened.
- Copies of operating instructions for industrial tractors, printed in a language understood by the majority of the employees, must be posted at a place frequented by the drivers.

- Vehicles operating on rails or drawn by chains or cables must be equipped with wheel guards or bumpers to prevent a person's feet from being crushed under the wheels.

Appendices

The following documents have been attached to this written program:

- Daily Inspection Checklist
- Monthly Inspection Checklist
- Forklift Operator’s Initial Certification
- Forklift Operator’s Re-Evaluation Certification

AERIAL & SCISSOR LIFT SAFETY PROGRAM

Purpose

According to NIOSH, about 26 construction workers die each year from using aerial lifts. More than half of the deaths involve boom-supported lifts, such as bucket trucks and cherry pickers; most of the other deaths involve scissor lifts. Electrocutions, falls, and tipovers cause most of the deaths. Other causes include being caught between the lift bucket or guardrail and object (such as steel beams or joists) and being struck by falling objects. (A worker can also be catapulted out of a bucket, if the boom or bucket is struck by something.)

The purpose of this program is to outline policies and procedures for the safe operations of scissors lift and aerial lifts operated by [Company Name] employees. It applies to all operations, programs and locations that require employees to access elevated locations and/or use aerial work platforms; in particular steel erection and inspection.

Administrative Duties

[RSO Name], RSO is our Aerial & Scissors Lift Operation Program Coordinator, who has overall responsibility for the plan. Copies of this written program may be obtained from the RSO's office.

Definitions

- Aerial Lift – A piece of equipment, extendable and/or articulating, designed to position personnel and/or materials in elevated locations. Aerial lifts include the following types of vehicle-mounted aerial devices used to elevate personnel to job-sites above ground:
    - Extensible boom platforms;
    - Aerial ladders;
    - Articulating boom platforms;
    - Bucket Trucks;
    - Vertical towers; and
    - A combination of any such devices. Aerial equipment may be made of metal, wood, fiberglass reinforced plastic (FRP), or other material; may be powered or manually operated; and are deemed to be aerial lifts whether or not they are capable of rotating about a substantially vertical axis.

- ANSI – American National Standards Institute.

- Lanyard – ANSI approved line designed for supporting one person, with one end connected to a safety harness and the other end attached to a suitable anchorage able to support 5,400 pounds of force. The anchorage can be a structural steel member, an approved lifeline, or other approved anchorage points.

- Full Body Harness – ANSI approved body device designed for fall protection, which by reason of it’s attachment to a lanyard and safety line or an approved anchorage point, which will limit a fall to six (6) feet or less.

Fall Protection

Full body harnesses and lanyards shall only be used, as intended by the manufacturer, for employee fall protection. Appropriate devices shall be used to provide 100% fall protection. The "D" ring on the body harness shall be positioned in the back up between the shoulder blades to minimize impact forces of the body in the event of a fall.

NOTE: Body belts are ***NOT*** acceptable as part of a personal fall arrest system

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

Hard hats and safety harnesses shall be worn by employees in the bucket or platform of any aerial lift device. Other safety personal protective items may be required by either company or client safety policies. High visibility clothing is NOT required for employees, but it is recommended while working in the air.

Consideration must be given to water hazards and appropriate precautions. When 100% fall protection is employed, OSHA water safety standards are not mandated. However it is advisable to take minimum precautions such as readily available buoy and safety line, and a rescue boat.

Equipment

Aerial lift devices shall conform to ANSI Standards applicable to the type of equipment being used – bucket truck, under-bridge inspection vehicle, portable and/or self-propelled personnel lift. Aerial lift devices shall only be used for the purpose(s) intended by the manufacturer. All manufacturer and maintenance department recommendations and warnings regarding operation, capacity and safety precautions shall be strictly followed. Permanent labeling must be conspicuously posted to indicate lifting capacity and travel height.

Aerial lifts may be "field modified" for uses other than those intended by the manufacturer provided the modification has been certified in writing by the manufacturer or by any other equivalent entity, such as a nationally recognized testing laboratory, to be in conformity with all applicable provisions of ANSI A92.2-1969 and this section and to be at least as safe as the equipment was before modification.

Only devices approved for lifting personnel shall be used as aerial lifts. Loaders, forklifts or other material lift devices shall NOT be used to transport employees to elevated locations nor as work platforms. Forklifts and cranes may ONLY be used as a last resort, and then only with approved personnel baskets. Modifications shall not be made to any aerial lift device without the expressed written authorization from the manufacturer. Buckets and bucket liners shall not be drilled, cut, welded on, etc.

Procedures

Lift equipment shall be inspected upon delivery to the jobsite, and daily prior to use. The daily inspection will include testing the controls prior to use, and all inspections shall be documented on the Aerial Lift Daily Inspection form.

Before extending or raising the boom or platform, outriggers (if so equipped), shall be positioned properly and the lift will be level. Outriggers shall be placed on mud mats or other SOLID surface, and shall not be used to level the vehicle. If the lift is on unleveled ground, the wheels shall be chocked and the parking brake set. Sufficient clearance shall be checked before raising the lift. For under-bridge units, adequate clearance beneath the boom shall be assured.

Employees shall keep both feet on the floor of the bucket or platform at all times. When the lift has to be moved, it shall only be moved when the bucket or platform is at the lowered position. For scissor lifts, this is lowered all the way down, and for aerial lifts, this is lowered to the lowest point that the operator can safely see to drive the vehicle.

Employees are required to wear full body safety harnesses with lanyards. The lanyards shall be attached to an engineered anchorage point inside the lift. Do Not wrap the lanyard around a rail and tie back onto itself. Employees are Not to anchor on structural members outside of the lift, unless exiting the lift to get on the structural members.

Platform lifts (scissors lifts) shall have a top and mid rail and a kick plate (toe board), along with an engineered anchorage point to tie off. Employees shall not climb nor stand on the mid or top rails, keeping both feet on the floor of the platform.

Tools, parts or any materials shall not be dropped or thrown from the bucket or platform. When using welding or heating equipment from the bucket or platform, the vehicle shall be protected from sparks and slag and special care shall be taken to remove flammable objects away from the lifts.

Electrical Safety

When working near electrical lines or equipment, avoid direct or indirect contact. Direct contact is body contact. Indirect contact is when the body touches or is in dangerous proximity to any object that is in contact with energized systems. Always assume lines are "live" and carry high voltage. Electrical lines can only be considered "dead" when verified by licensed electricians from the utilities department, and proper lockout and tagout has been performed.

Employees shall not position any aerial lifts closer than ten (10) feet to a power line that carries up to fifty (50) kilovolts. For each kilovolt over 50, add four (4) inches.

Employees are to be trained concerning the hazards and precautions of working near power lines. Ensure posted warning placards are in place concerning electrical lines.

If the operator is unable to assess the clearances while operating the aerial lift, then a "spotter" must be used to observe the clearances and warn the operator.

Specific requirements

- Ladder trucks and tower trucks. Aerial ladders shall be secured in the lower traveling position by the locking device on top of the truck cab, and the manually operated device at the base of the ladder before the truck is moved for highway travel.

- Extensible and articulating boom platforms.

- Lift controls shall be tested each day prior to use to determine that such controls are in safe working condition.

- Only authorized persons shall operate an aerial lift.

- Belting off to an adjacent pole, structure, or equipment while working from an aerial lift shall not be permitted.

- Employees shall always stand firmly on the floor of the basket, and shall not sit or climb on the edge of the basket or use planks, ladders, or other devices for a work position.

- A body belt shall be worn and a lanyard attached to the boom or basket when working from an aerial lift.

- Boom and basket load limits specified by the manufacturer shall not be exceeded.

- The brakes shall be set and when outriggers are used, they shall be positioned on pads or a solid surface. Wheel chocks shall be installed before using an aerial lift on an incline, provided they can be safely installed.

- An aerial lift truck shall not be moved when the boom is elevated in a working position with men in the basket, except for equipment which is specifically designed for this type of operation in accordance with the provisions of paragraphs of 1926.453.

- Articulating boom and extensible boom platforms, primarily designed as personnel carriers, shall have both platform (upper) and lower controls. Upper controls shall be in or beside the platform within easy reach of the operator. Lower controls shall provide for overriding the upper controls. Controls shall be plainly marked as to their function. Lower level controls shall not be operated unless permission has been obtained from the employee in the lift, except in case of emergency.

- Climbers shall not be worn while performing work from an aerial lift.

- The insulated portion of an aerial lift shall not be altered in any manner that might reduce its insulating value.

- Before moving an aerial lift for travel, the boom(s) shall be inspected to see that it is properly cradled and outriggers are in stowed position except as provided in paragraph (b)(2)(viii) of 1926.453.

- Electrical tests. All electrical tests shall conform to the requirements of ANSI A92.2-1969 section 5. However equivalent d.c.; voltage tests may be used in lieu of the a.c. voltage specified in A92.2-1969; d.c. voltage tests which are approved by the equipment manufacturer or equivalent entity shall be considered an equivalent test for the purpose of this paragraph (b)(3) of 1926.453.

- Bursting safety factor. The provisions of the American National Standards Institute standard ANSI A92.2-1969, section 4.9 Bursting Safety Factor shall apply to all critical hydraulic and pneumatic components. Critical components are those in which a failure would result in a free fall or free

rotation of the boom. All noncritical components shall have a bursting safety factor of at least 2 to 1.

– Welding standards. All welding shall conform to the following standards as applicable:
    - Standard Qualification Procedure, AWS B3.0-41.
    - Recommended Practices for Automotive Welding Design, AWS D8.4-61.
    - Standard Qualification of Welding Procedures and Welders for Piping and Tubing, AWS D10.9-69.
    - Specifications for Welding Highway and Railway Bridges, AWS D2.0-69.

Training

The RSO will identify all new employees in the employee orientation program and make arrangements with department management to schedule training.

Before we begin training a new employee, our Aerial & Scissors Lift Program Administrator, [RSO Name] and/or the Area Supervisor, determines if the potential lift operator is capable of performing the duties necessary to be a competent and safe operator. This is based upon his/her physical and mental abilities to perform job functions that are essential to the operation of the lift.

These capabilities include the level at which the operator must:
- See and hear within reasonably acceptable limits, (this includes the ability to see at a distance and peripherally, and in certain instances, it is also necessary for the operator to discern different colors, primarily red, yellow, and green);
- Endure the physical demands of the job; and
- Endure the environmental extremes of the job, such as the ability of the person to work in areas of excessive cold or heat. An operator must be able to climb onto and off of a lift, and to stand in the lift for extended periods of time.

Once our Administrator determines that a potential operator is capable of performing aerial and scissor lift duties, the following person(s) will conduct initial training and evaluation: RSO and/or Area Supervisors. These instructor(s) have the necessary knowledge, training, and experience to train new aerial lift operators.

Retraining shall be accomplished annually or when an employee shows a lack of understanding of aerial lift safe operating procedures.

Appendices

– Aerial Lift – Scissor Lift Inspection Form

BUCKET TRUCK SAFETY

Purpose

According to NIOSH, about 26 construction workers die each year from using aerial lifts. More than half of the deaths involve boom-supported lifts, such as bucket trucks and cherry pickers; most of the other deaths involve scissor lifts. Electrocutions, falls, and tipovers cause most of the deaths. Other causes include being caught between the lift bucket or guardrail and object (such as steel beams or joists) and being struck by falling objects. (A worker can also be catapulted out of a bucket, if the boom or bucket is struck by something.)

The purpose of this program is to outline policies and procedures for the safe operations of bucket trucks operated by [Company Name] employees. It applies to all operations, programs and locations that require employees to access elevated locations and/or use bucket trucks.

Administrative Duties

RORY B. BARON, RSO is our Bucket Truck Operation Program Coordinator, who has overall responsibility for the plan. Copies of this written program may be obtained from the RSO's office.

Signal Words

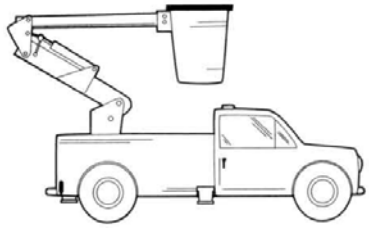
Signal words are distinctive words that will be found on the upper panel of safety signs on this machine and other equipment on the worksite. These words are intended to alert the viewer to the existence and relative degree of a hazard.

This signal word indicates an imminently hazardous situation which, if not avoided, will result in death or serious injury.

This signal word indicates a potentially hazardous situation which. if not avoided, could result in death or serious injury.

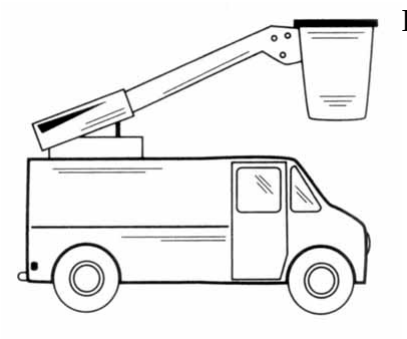
This signal word indicates a potentially hazardous situation exists which, if not avoided, may result in minor or moderate injury.

Types of Aerial Devices

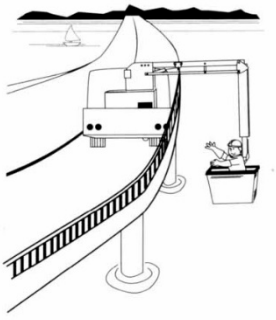


There are two basic types of aerial devices:

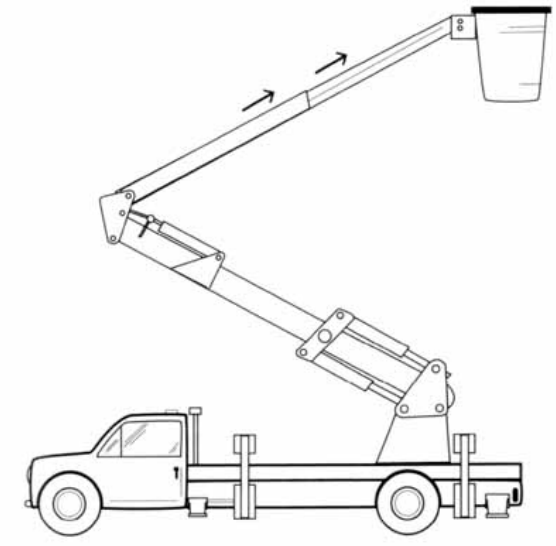
Articulated Boom Aerial Devices (insulated or non-insulated)



Extendible (telescopic) Boom Aerial Devices (insulated or non-insulated)



There are also hybrid aerial devices which are essentially articulated aerial devices with extendible (telescopic) booms.



Fall Protection

Full body harnesses and lanyards shall only be used, as intended by the manufacturer, for employee fall protection. Appropriate devices shall be used to provide 100% fall protection. The "D" ring on the body harness shall be positioned in the back up between the shoulder blades to minimize impact forces of the body in the event of a fall.

NOTE: Body belts are ***NOT*** acceptable as part of a personal fall arrest system

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

Hard hats and safety harnesses shall be worn by employees in the bucket or platform of any aerial lift device. Other safety personal protective items may be required by either company or client safety policies. High visibility clothing is NOT required for employees, but it is recommended while working in the air.

Consideration must be given to water hazards and appropriate precautions. When 100% fall protection is employed, OSHA water safety standards are not mandated. However it is advisable to take minimum precautions such as readily available buoy and safety line, and a rescue boat.

For Safe Operation

WARNING: For safe operation of this aerial device, all members of the crew must be qualified and authorized to perform their particular duties.

To be qualified, you must:

- understand the written instructions supplied by the manufacturer, company rules, and OSHA regulations;
- have training, including actual operation of this aerial device;
- know and follow the safety rules and regulations for the jobsite.

WARNING: Use of this machine by an untrained person can result in severe injury or death.

WARNING: On the job, the crew must not use drugs or alcohol; they can impair alertness and coordination. Anyone taking prescription or over-the-counter drugs needs medical advice regarding whether or not they can safely operate machines.

The ground crew member must know how to lower the unit from the lower controls and emergency rescue procedures.

Safe Operation

COMELCO, INC. has rules governing operation and maintenance of equipment. Before you start work at a new location, check with your supervisor or the RSO. Ask about rules you will be expected to obey.

- Inspect your aerial device each day, following the manufacturer's guidelines set forth in the manuals for this equipment, including all boom and stabilizer functions before beginning work (use lower controls).
- Know the capacity and operating characteristics of this machine, including maximum permitted ground slope.
- Do not overload the boom system or platform.
- Know the weight of items to be lifted.
- Never remove any part of the aerial device (except for service).
- If your aerial device is insulated, keep the insulated part of the booms clean, dry and free of oil or grease.

- Never modify any part of the aerial device without manufacturer's permission.
- Latch platform door (if equipped).
- Securely fasten any safety chains across door openings (if equipped).
- Fasten your fall protection device to the anchor point before you start.
- Never allow unauthorized riders on your aerial device.
- Keep others away from vehicle with boom in operation.
- Electrically ground the vehicle (if applicable).
- Maintain specified distances from electric power lines and apparatus.
- Use insulated shields, covers, mats when required.
- Never use non-insulated aerial devices near power lines.
- Do not use an aerial device to life equipment or pull cable unless it is specifically designed and rated for such loads.
- Wear your insulated gloves and sleeves when required.
- Alert crew members when lowering outriggers.
- Use outrigger pads (when applicable).
- Communicate with crew members when aloft in platform.
- Use intercom (if applicable).
- Discuss your work plans prior to performing job.
- Wear your insulated hard hat.
- Use vehicle barrier kit.
- Whenever you leave your aerial devices unattended, always lower the boom and platform or other attachments to their transport position. Engage the parking brake, stop the engine, and remove the key.
- Know when the next insulating dielectric test for the unit is due, and do not operate the unit if the test has not been performed.
- Understand hand, flag and horn signals.
- Make sure you understand the rules covering traffic at your jobsite. Know what all signs, flags, and markings mean. Know when to use lights, turn signals. flashers, and horns.

Protect Yourself

Wear or use all the protective clothing and personal safety devices issued to you or called for by job conditions. You must always use fall protection.

You may also need:

- Safety belt or harness and lanyard
- An insulated hard hat
- Safety shoes
- First aid kit
- Safety glasses, goggles, or face shield
- Insulated gloves, sleeves
- Insulated shields, covers, mats and blankets
- Insulated tools
- Wet weather gear
- Cotton clothing

Wear whatever is needed, don't take chances.

WARNING: Do NOT wear loose clothing, neckties, rings, watches, bracelets or chains. Wrapping or entanglement can result in severe injury or death.

Be Alert! Know where and how to get assistance. Know how to use a first aid kit and fire extinguisher/fire suppression system and be certain these items are available and easy to get to. Know CPR.

Be Aware! Take advantage of training programs offered.

Be Careful! Human error is caused by many factors: carelessness, rushing to get a job done quickly, fatigue, overload, preoccupation, drugs, and alcohol to name a few. Damage to the aerial device can be fixed in a short period of time, but serious injury or death has a devastating effect. For your safety and the safety of others, encourage your fellow workers to act safely. Do not force or overextend yourself beyond your capabilities based on training and experience. Use the proper tool for the job at hand. Do not use tools and equipment beyond their design capabilities.

Know Your Equipment

Aerial devices differ in their operation, capacity, mechanisms, maintenance, intended uses, etc., so your knowledge of one aerial device may not help you safely operate another. Know your aerial device. Know how to operate all equipment on your aerial device. Know the purpose of all the controls, gauges, warning labels and indicators. Know the rated load capacity, speed range, braking and steering characteristics, turning radius, operating clearances, and ground slope limits. Keep in mind that rain, snow, ice, wind, loose gravel. soft ground, slope, etc., change the operating capabilities of your aerial device. Study the DANGER, WARNING, and CAUTION safety signs on your aerial device and all DANGER, WARNING, CAUTION and INFORMATION notes in the operator's manual.

Study the manufacturer's operator's manual before operating the aerial device. If there is no manual with the aerial device— get one. Study it before you start work.

If there is something in the manual you don't understand, ask your supervisor to explain it to you.

This manual covers safe practices for Aerial Devices. If your aerial device is equipped with other devices or special accessories, read the manufacturer's operating and safety manuals pertaining to that equipment before using it.

Know the rules - LIVE by then.
Know and understand the rules.
Use your head - and your hard hat.
Play it safe. Know how to summin help.
Respect your equipment. Make sure you know how it operates.

Safety Before Operation

Check the Safety Equipment

To protect you and others around you, see that applicable safety equipment is securely in place and in operating condition. Make certain all guards, railings, covers and safety signs are installed on the aerial device and vehicle as required by the manufacturer.

- Platform liner
- Platform door latch
- Fall protection device
- Safety chains across door openings (if equipped)
- Emergency controls
- Ground controls
- Intercom
- Interlock devices
- Barricade or barrier kits for vehicle
- Deadman control
- Outrigger pads (if applicable)
- Wheel chocks
- Upper and/or lower boom latches
- Warning lights
- Safety signs
- Guards
- Insulated shields, covers and mats
- Back-up alarm
- Fire extinguisher/fire suppression system
- First aid kit
- Ground equipment

Use them! Never remove or disconnect any safety device.

Check the Aerial Device

Before you begin your workday, you should inspect your aerial device and have all systems in good operational condition as set forth in the manufacturer's manual. Do not operate the aerial device until all deficiencies are corrected by a qualified individual.

- Do pre-travel inspection test.
- Check for broken, missing or damaged parts. Have a qualified person make the necessary repairs.
- Check the tires for cuts, bulges and correct pressure.
- Replace badly worn or damaged tires; properly inflate tires.
- Check the outriggers, if so equipped, or other stabilization equipment such as torsion bars.
- Check service, parking, and swing brake for proper operation.
- Check the boom, platform, rotation, rotation brake and boom winch operation (if so equipped) at both upper and lower controls.

- Check the hydraulic system. Repair any leaks. If the outriggers have crept down overnight, test check valve system.
- Ensure that regular lubrication is performed in accordance with the manufacturer's guidelines.
- Check cooling system.
- Check the electrical systems and components for deterioration or wear including those not readily visible on a frequent inspection.
- Check bolts and fasteners for proper tightness and signs of wear.
- Examine welds for cracks or signs of rust, which can indicate potential problems.
- Check platform door latch for proper operation.
- If the boom is insulated, check insulation components to be certain they are dry and free of grease, oil, or dirt.
- Perform all maintenance procedures outlined by the manufacturer of your aerial device.

WARNING: Diesel fuel or hydraulic fluid under pressure can penetrate the skin or eyes and cause serious injury, blindness or death. Fluid leaks under pressure may not be visible. Use a piece of cardboard or wood to find leaks but do not use your bare hand. Wear a face shield or safety goggles for eye protection. If any fluid is injected into the skin, it must be surgically removed within a few hours by a doctor familiar with this type of injury.

Perform Pre-Operation Inspection

Inspection of the aerial equipment prior to use is a MUST. It cannot be assumed that the last crew to use the unit left it in good order. The pre-operation inspection is the time to detect potential failures and take corrective action before a minor defect becomes a major breakdown, or worse, results in injury or death to personnel. Use the checklist provided for that purpose in the Manufacturer's Operator's Manual, which may include the following:

- Outriggers (if so equipped) and booms for possible structural cracks.
- Control handles for free operation.
- Booms at pivot points.
- Fiberglass boom (if so equipped) for visible damage and cleanliness.
- Bolts and nuts.
- Hydraulic cylinders and attachment points for leaks.
- Platform at attachment points.
- Availability of fall protection device, wheel chocks and outrigger pads.
- Platform door latch for proper operation.
- Safety chains for secure clasp.
- Welds for cracks or signs of rust, which can indicate potential problems.
- Electrical apparatus for malfunction and cleanliness. 16 Inspect your equipment before starting operation.
- Visual and audible safety devices for malfunction.
- Do not use an aerial device that is not in proper operating condition.

It is the OPERATOR'S RESPONSIBILITY to run the check of all functions and controls before going aloft.

WARNING: Be certain that all the decals are

- in place

- legible
- understood.

Use Caution When Fueling

WARNING: Never fill the fuel tank when the engine is running, while you're smoking or when the truck is near an open flame. Never overfill the tank or spill fuel. If fuel is spilled, clean it up immediately.

Ground the fuel funnel or nozzle against the filler neck to prevent sparks and be sure to replace the fuel tank cap. For additional information on fire hazards, refer to the section on Fire and Explosion Hazards.

Clean Up

Make sure the operator's area, lift, platform, truck bed, steps and hand holds are clean and free of debris. Oil, grease, snow, ice or mud in these areas can cause you to slip and fall. Clean your boots of excess mud before getting on the machine.

Remove all loose personal items or other objects from the truck cab and operator's area on the aerial device. Secure these items in the tool box or remove them from the machine.

WARNING: If the aerial device is insulated, the insulated portions of the aerial device MUST be dry and free of grease or oil to maintain maximum insulation protection.

WARNING: Dirt, grease, other foreign matter, moisture, and humidity will all dramatically increase the conductivity of synthetic rope.

Safe Transport

While traveling on public roads or streets, be sure all local and state/provincial laws and regulations are followed.

Refer to your manufacturer's manual for instructions on preparing the unit for transport. Secure the boom and platform in the transport position. Make sure that outriggers are up and secured in the transport position. Make sure that all accessory equipment is properly stored and secure.

When driving at night, use appropriate lights. Make sure you know your machine travel height and the height of all underpasses.

Always use hazard warning lights when parked at a job-site. Never park in traffic areas.

Know the Working Area

WARNING: Failure to properly evaluate the work area can lead to serious injury or death. Learn—beforehand—as much about your working area as possible. Check for:

- Exact location of any overhead electrical, telephone, TV cable, or other utility lines.

- Location of slopes. Follow manufacturer's maximum slope lift can operate on.
- Potholes
- Broken curbs
- Open trenches
- Dropoffs or overhangs
- Soil conditions (soft or hard)
- Standing water and marshy areas
- Rocks, stumps and tall grass
- Overhead or side obstructions
- Conditions of roads
- Mud, snow or ice
- Heavy traffic
- Underground structures
- Thick dust, smoke, fog

Electrical Safety

When working near electrical lines or equipment, avoid direct or indirect contact. Direct contact is body contact. Indirect contact is when the body touches or is in dangerous proximity to any object that is in contact with energized systems. Always assume lines are "live" and carry high voltage. Electrical lines can only be considered "dead" when verified by licensed electricians from the utilities department, and proper lockout and tagout has been performed.

Employees shall not position any bucket truck closer than ten (10) feet to a power line that carries up to fifty (50) kilovolts. For each kilovolt over 50, add four (4) inches.

Employees are to be trained concerning the hazards and precautions of working near power lines. Ensure posted warning placards are in place concerning electrical lines.

If the operator is unable to assess the clearances while operating the bucket truck, then a "spotter" must be used to observe the clearances and warn the operator.

DANGER: Never approach any power line with any part of your machine unless all local, State/Provincial, company work rules and Federal (OSHA) required safety precautions have been taken. Use extreme caution; serious injury or death will result with contact from any power line.

DANGER: DO NOT maneuver machine or personnel inside PROHIBITED ZONE. Allow for sway, drift, and platform movement in calculating safe distances.

ASSUME all electrical parts and wiring are ENERGIZED unless known otherwise.

Always follow State/Provincial, company work rules and Federal (OSHA) standards.

Before Starting

Before starting, walk around the equipment. Make sure no one is under, on or close to the unit. Let other workers or bystanders know you are starting up. Don't start until everyone is clear of the unit.

When operating an aerial device inside a building. know what clearances you will encounter—overhead, doorway, aisles, etc.; also the weight limitations of floors and ramps. Make sure there is sufficient ventilation for inside operation.

Position Unit for Operation

1. Position vehicle on the most level ground, but the equipment must not be operated on an incline greater than as permitted in the manufacturer's operations manual. If on an incline, position the vehicle so that the platform would be operated on the upgrade side in a stable position.
2. Set the brakes.
3. Use wheel chocks (both sides).
4. Engage power source.
5. Set the outriggers (if so equipped). Use outrigger pads if ground is soft. Level the vehicle as much as possible, but observe manufacturer's maximum ground slope.
6. Spot your vehicle as close to the work as possible to minimize reach, but be sure there are no obstructions to prevent safe and proper lift and rotation.
7. Make sure the vehicle is stable.

Play it safe. Take advantage of all the protection available.
Safe operations begins with a safety-conscious operator.
Don't let fluids get under your skin.
Inspect your equipment before starting operation.
Dirt, grease and moisture decrease insulation protection.
Obey your local traffic laws.
You must know your electrical safety zones.
Look out for the other guy.

Work Safely

Remember These Rules

When operating the boom(s):

- Keep your fall protection device fastened and comfortably snug.
- Securely fasten any safety chain (if equipped).
- Use your personal protective equipment.
- Be in control of your aerial device at all times.
- Look and listen for malfunctions.
- Stop if a malfunction or erratic operation is detected.
- Correct or report trouble immediately.
- Keep both feet on the floor of the platform.
- Know your clearances.

Remember the Other Person

- Never allow an untrained or unqualified person to operate your aerial device. Handled improperly, this aerial device can cause severe injury or death.
- Know the pinch points and moving parts on the aerial device. Awareness on your part can prevent accidents.
- When traveling, never allow anyone to ride on the back of the truck or in the lift platform.

Aerial Device Safety Precautions

- Never allow the booms or turntable to enter traffic lanes without proper barricading. Exercise extreme care, especially with articulating boom and/or large offset turntable while rotating. Park to block traffic.
- Check the clearance overhead. Note any obstructions. Know exactly how much clearance all parts of your aerial device have around electric power lines.

DANGER: NON-INSULATED machines shall NOT be used on or near any energized power line. Death or serious injury will result from contact or inadequate clearance to energized electrical power lines or apparatus.

- MAINTAIN SPECIFIED DISTANCE FROM ELECTRICAL LINES AND APPARATUS. Never approach power lines with any part of your machine unless all local, state/provincial and federal (OSHA) required safety precautions have been taken. Use extreme caution.
- YOU MUST ALLOW FOR PLATFORM SWAY, ROCK AND CREEP, ALSO ELECTRICAL LINE SWAYING.
- Ground personnel must not contact the vehicle when the unit is working on energized power lines.
- Beware of strong and/or gusty wind conditions.
- Set brakes and chock the wheels before operating.
- Make sure the area is clear of all persons before you start operating.
- As necessary, use a signal person to control traffic.
- Keep yourself and others away from the outriggers when they are being operated.
- Always have outriggers in view when they are being extended, and/or use a signal person to watch.
- Always make sure that you follow the manufacturer's recommendations while operating the aerial device.

WARNING: Never allow anyone else to enter aerial device's rotation area or walk under the platform or suspended load. Death or serious injury can result.

Repositioning Vehicle

If your machine has a separate power source to operate the lifting and rotation functions, shut off the vehicle engine and remove key. Before moving the vehicle, stow the boom and platform in the transport position and secure if required, raise the outriggers (if so equipped), remove the wheel chocks, disengage PTO, and then drive the machine forward or backwards, as required. After the machine has been repositioned, engage the parking brake. chock the wheels, and shift transmission controls to neutral or to gear for PTO operation. Lower the outriggers and level the machine.

Electrocution can result from contacting or approaching overhead power cables. Only INSULATED machines are suitablefor this work.

DANGER: An insulated platform provides no protection from contact between two energized conductors or between an energized conductor and a grounded conductor by the operator, even with insulated machines.

DANGER: Never pass platforms between power lines, even with insulated machines.

DANGER: With an insulated machine, never approach overhead power lines with any part of your machine unless all local, state/provincial, company work rules and federal (OSHA) required safety precautions have been taken. Use extreme caution. YOU MUST ALLOW FOR PLATFORM SWAY, ROCKING AND CREEP, AS WELL AS ELECTRICAL LINE SWAYING.

Check overhead clearances: Know your margin of safety. If possible, have power to the lines disconnected. If not possible, request a signal person for guidance to maintain at least minimum distance required by OSHA from overhead power lines.

DANGER: Contact with energized power lines will cause DEATH or serious injury to persons in the platform and those on the ground in contact with the machine. Maintain adequate clearance.

WARNING: Do not operate your aerial device dur- ing electrical storms.

WARNING: Your platform and platform liner, synthetic winch cable and insulated boom section must be dry and clean before operating your aerial device on or near power lines and apparatus. Moisture, grease and debris will defeat the insulating value of these components, which could result in serious injury or death.

WARNING: DO NOT drill drain holes in insulated platform or platform liners.

DANGER: NO AERIAL DEVICE. WHETHER INSULATED OR NOT, PROVIDES ANY ELECTRICAL PROTECTION TO ANY OCCUPANT OF THE PLATFORM IF THERE IS PHASE-TOPHASE OR PHASE-TO-GROUND CONTACT. SUCH CONTACT WILL CAUSE SEVERE INJURY OR DEATH.

DANGER: Contact can be made when any portion of the boom tip is in contact with a phase or ground and the operator is in contact with another phase or ground and contact is made with any area of the boom tip by the operator. Contact will cause severe injury or death.

WARNING: In case of an accident, or other emergency, involving any electrical source. DO NOT approach or enter the vehicle unless you are certain the vehicle is NOT energized. If the vehicle is energized, or you are not sure, stand on insulated pad or blanket, use a long insulated pole to operate the emergency/lower control system to bring the platform down.

Aerial Device Operation

WARNING: You must wear the fall protection device. Before raising the platform, attach the lanyard to an anchor point.

WARNING: Never allow anyone to tamper with, service, or operate an aerial device from the lower control station while personnel are in the platform, except in an emergency or equipment malfunction. Move the controls smoothly. For final positioning of the platform, gently "feather" the controls.

WARNING: Jerking the controls will cause sudden starts and stops in aerial device operation. This can cause damaging shock loads and/or cause the platform to sway violently. When the platform has been raised to the working position, be extremely cautious to prevent any objects from striking or interfering with the operating controls. Secure all tools, equipment or other materials placed on the platform to keep them from shifting or falling.

WARNING: Never disconnect your fall protection device while aloft. Any sudden machine movement can cause you to fall from the platform.

WARNING: Never use ladders, planks, steps or other devices to provide additional reach or gain greater height. Do not lean over or sit or climb on the platform railing. Always keep both feet on the platform floor at all times.

WARNING: Never belt off to an adjacent pole, tree or other structure when working from an aerial platform.

WARNING: Never attempt to transfer from the platform to a pole. tower, tree or any adjacent structure while the booms are in a raised position.

WARNING: On non-overcenter machine, do not attempt to readjust the boom safety stops for more reach. When raising, lowering or rotating the platform, use extreme caution. Always look in the direction of movement. Watch out for obstructions above. below and to all sides. If necessary, use a signal person on the ground to guide you.

Lifting Loads with an Aerial Device

Do not use an aerial device to lift loads unless the aerial device has been specifically designed and equipped with attachments for material handling. Understand the lifting capabilities of the boom and jib winch package.

Before lifting a load, see the manufacturer's manual or load chart affixed to the boom for the lifting capacity of your machine with the boom in various positions. Lift loads only if designed and equipped with attachments for material handling.

WARNING: OVERLOADING IS DANGEROUS. Know the weight you are lifting. If you do not know the weight, you must determine its weight before lifting load. Make certain you are within the safe load and work radius limitations of this aerial device and are on solid level ground within manufacturer's maximum slope before lifting any load. Never attempt to lift an object at an angle. The boom head must

be directly over the load before lifting. Always lower the outriggers to the ground before lifting. If ground is soft, place flotation pads under each outrigger. When lifting, be sure the load is properly balanced. Move slowly so the load does not sway or swing around. If necessary, use a tag line for additional control. Avoid shock to loads when lowering a load. Lower slowly and smoothly. DO NOT attempt to pull a pole from the ground with your aerial device. Use a pole puller. DO NOT attempt to pull cable. This creates abnormal stresses in the booms, which can lead to pin failure and boom collapse.

WARNING: Never tie a load to the platform or boom. The platform may bounce or sway violently when the load falls. Only use lifting device provided.

WARNING: Allow extra overhead clearance in case boom does raise when load is relieved.

WARNING: Boom mounted material handling devices are for lifting freely suspended loads only. Never side load the boom.

Stowing the Unit

1. Gently settle the boom(s) onto supports using a "feathering" movement of the controls.
2. Secure the boom(s) in the supports per manufacturer's instructions.
3. Raise the outriggers (if so equipped) to their full "up" travel position.
4. Disengage the PTO.
5. Stop the engine.

Keep yourself safe and secure.
DO NOT use non-insulated machinery near high tension power lines.
Keep your distance from power lines.
Stand clear of outriggers and from under the aerial platform.
Inadequate clearance can be fatal.
Lightening is dangerous.
Contact with energized power lines can cause death.
Dont' risk yourself during a rescue.
Position the platform with a "feathering" touch.
Don't get hung up where you don't belong.
Don't overload your machine. Know your machine's lifting capacity.
Use proper lifting devices.

Perform Maintenance Safely

Proper maintenance is necessary to provide safe, reliable operation of the aerial device.

Be certain that the aerial device you are operating has been properly maintained by qualified personnel. Read and understand the manufacturer's manual(s) pertaining to your equipment. Perform all operator's inspections required by the manuals and or federal, local, or state/provincial regulations.

WARNING: Do not perform any work on a machine unless you are authorized—and qualified—to do so.

Use parts, lubricants and service techniques recommended by the manufacturer.

Definition of Qualified Individual:

A "Qualified Individual" is defined as a person who, by possession of a recognized degree, certificate, professional standing, or skill, and who, by knowledge, training, and experience, has demonstrated the ability to deal with problems relating to the subject matter, the work, or the project.

If you have been authorized to do maintenance, READ AND UNDERSTAND THE MANUFACTURER'S SERVICE AND OPERATOR'S MANUALS. Study the instructions; check the lubrication charts: examine all the instruction and warning messages on the machine for readability. Maintenance can be dangerous unless performed properly. Be sure you have the necessary skill, information, correct tools and equipment to do the job correctly. Use manufacturer's recommended hydraulic oil.

Attach a "DO NOT OPERATE" tag or similar warning tag to the starter switch or steering controls before performing maintenance on the machine.

If the machine should not be started, remove the ignition key.

Prepare the Work Area

Choose a clean, level work area. Make sure you have sufficient room. Check clearances. Make certain there is adequate light and ventilation. Clean the walking and working surfaces. Remove oil, grease, and water to eliminate slippery areas. Put sand or other absorbent material on slippery areas.

Prepare Yourself

Wear all the protective clothing the job requires. Wear a rubber apron and rubber gloves when working with corrosive materials. Wear gloves and safety shoes when handling wooden blocks, wire rope or sharp-edged metal or heavy objects. Safety shoes must be worn at all times.

Safety glasses, goggles or a face-shield are always needed for eye protection from electric arcs from shorts, fluids under pressure, while grinding, servicing batteries, and from flying debris or loose material when engine is running or tools are used. Wear a face-shield when you disassemble spring loaded components or work with battery acid. Wear a helmet or goggles with special lenses when you weld or rut with a torch.

Do not sand, grind, flame-cut, braze or weld without a NIOSH/MSHA approved respirator or appropriate ventilation. If welding is required on this machine, refer to the manufacturer's manuals or consult your equipment dealer for proper procedures including welder certification requirements, proper grounding procedures and disconnecting of alternator or battery.

Block the boom or purge the cylinders of all air when doing maintenance to prevent free fall.

Handle tools and heavy parts CAREFULLY—with regard for yourself and other persons. LOWER ITEMS—DON'T DROP THEM.

WARNING: Keep clear of all rotating components. Wrapping or entanglement may result in serious injury or death. KEEP HANDS—AND CLOTHING—AWAY FROM ALL MOVING PARTS. Don't tempt fate with dangling ties, loose sleeves, rings or long hair. Keep pockets free of all objects which could fall out—and into machinery.

Prepare the Machine

WARNING: START THE ENGINE FROM THE DRIVER'S SEAT ONLY. NEVER ATTEMPT TO START THE ENGINE BY SHORTING ACROSS STARTER TERMINALS OR REACHING FROM THE GROUND OR OUTSIDE THE CAB. It may start in gear if neutral-start circuitry is bypassed. This could cause the unit to move suddenly and cause serious injury or death to anyone in its path. Move the machine onto a level surface. Stop engine, release all hydraulic pressure. Attach the cylinder rod support struts or block all hydraulically operated components if they must be in a raised position.

WARNING: DO NOT DISCONNECT HYDRAULIC COMPONENTS WHEN THERE IS PRESSURE IN THE SYSTEM. Disconnecting pressurized hose can result in serious injury to the exposed, unprotected face or other parts of your body.

WARNING: Never work on machinery with the engine running unless so instructed for specific service, by the manufacturer's operator's or service manuals.

WARNING: Never operate any type of engine without proper ventilation—EXHAUST FUMES KILL.

If it is necessary to run an engine in an enclosed area, remove the exhaust fumes from the area with an exhaust pipe extension. If you do not have an exhaust pipe extension, make sure you open the doors and get outside air into the area. If adjustments must be made with the engine running, always work as a two-person team with one person sitting in the driver's seat while the other works on the machine. Remove only guards or covers that provide access. Wipe away excess grease and oil. Never leave guards off or access doors open when unattended. Keep bystanders away if access doors are open. Make certain all guards, screens or panels, and safety signs are reinstalled on the machine as recommended by the manufacturer.

WARNING: Never substitute a conductive wire braid type hose for any insulated or nonconductive hose. Death or serious injury will result from the bridging of an insulated gap with a conductive hose. Most nonconductive hoses are orange in color and are marked as "nonconductive". Hoses must not have pinhole perforations, bubbles or cuts.

Insulated Test

Test the liner and insulated boom section(s) of your aerial device regularly per ANSI's A92 (A92.2) latest revision. (Periodic/Maintenance Test Procedures).

WARNING: When hose. oil or other components that pass through the insulated section of the boom(s) are replaced, an electrical insulation test must be performed.

Use Jacks and Hoists Carefully

If you must work beneath a raised vehicle during disassembly or maintenance, always use a truck lift or use wood (NOT CONCRETE) blocks, jack-stands or other rigid and stable supports to brace all movable portions of the aerial device. If these steps are not taken, components may shift or move during disassembly which could cause pinching or crushing injuries. When using jacks and hoists always be sure they are adequately supported.

WARNING: Never use concrete blocks for supports. They can collapse even under light loads. Make sure the hoist or jacks you use are in good repair. Never use jacks with cracked, bent or twisted parts. Never use frayed, twisted or pinched cables. Never use bent or distorted hooks.

Avoid Electrical System Hazards

Disconnect the battery before working on the electrical system. Remove the ground cables first. When reconnecting the battery, reconnect the ground cable last. Never work on the electrical system unless you are thoroughly familiar with system details and the special handling required.

Brake Safety Tips

Always follow manufacturer's manual(s) when adjusting brakes. Improperly adjusted brakes can cause an accident. Block wheels before purging air from the brake system. Air trapped in brake lines can cause erratic performance or loss of brakes.

Use only brake fluid recommended by manufacturer.

Be Careful With Fluids Under Pressure

The hydraulic system may be under pressure whenever the engine is running and may hold pressure even after shutdown. Install cylinder rod support struts or block the cylinders and equipment securely before working on the hydraulic system. Cycle all hydraulic steering and other controls after shutdown to relieve system pressure. When venting or filling the hydraulic system, loosen the filler cap slowly and remove it gradually. If the system is equipped with an accumulator, see the manufacturer's service manual for discharge and recharge instructions. Do not permit an open flame around the hydraulic system. Clean up spilled fluid immediately.

WARNING: Diesel fuel or hydraulic fluid under pressure can penetrate the skin or eyes and cause serious injury, blindness or death. Fluid leaks under pressure may not be visible. Use a piece of cardboard or wood to find leaks but do not use your bare hand. Wear a face shield or safety goggles for eye protection. If any fluid is injected into the skin, it must be surgically removed within a few hours by a doctor familiar with this type of injury.

Be Careful With Hot Cooling Systems

WARNING: Liquid cooling systems build up pressure as the engine gets hot. Before removing the radiator cap, stop the engine and let the system cool. Remove the radiator cap only after the coolant is cold. For cooling systems with an overflow tank, the coolant can usually be checked at the tank without removal of the radiator cap. See manufacturer's instructions.

Avoid Fire and Explosion Hazards

Stop the engine and shut off electrical equipment while filling the fuel tank. Use extra caution when fueling a hot engine. Always ground the fuel nozzle against the filler neck to avoid sparks.

WARNING: NEVER SMOKE WHILE HANDLING FUEL OR WORKING ON THE FUEL SYSTEM. THE FUMES IN AN EMPTY FUEL CONTAINER ARE EXPLOSIVE, NEVER CUT OR WELD ON FUEL LINES, TANKS OR CONTAINERS. Handle all solvents and dry chemicals according to procedures identified on manufacturer's containers or MSDS bar material. Work in a well-ventilated area. Make sure you know where fire extinguishers are kept and how to use them. Remove all trash or debris from the vehicle. Make sure that oily rags or other flammable material are removed from the machine. Check for fuel, oil or hydraulic fluid leaks. Repair the leaks and clean the machine before you operate.

Ether is flammable. Do not smoke when using Ether. Always follow the instructions on the Ether can and in the manufacturer's manual(s) for your machine. Do not use Ether if the engine is equipped with a glow plug or other type of preheater. Always use a nonflammable solvent when you clean parts. Do not use gasoline, diesel fuel or other flammable fluids. Store all flammable fluids and material away from your work area in suitable containers, as per local regulations. Do not store flammable fluid or gas containers in compartments with electrical controls. Check readiness of fire extinguishers.

Avoid Battery Hazards

WARNING: Lead-acid batteries contain sulfuric acid which can damage eyes or skin on contact. Always wear a face shield to avoid acid in eyes.

If acid contacts eyes, flush immediately with clean water and get medical attention. Wear rubber gloves and protective clothing to keep acid off skin. If acid contacts skin, wash off immediately with clean water, then seek medical attention.

WARNING: Lead-acid batteries produce flammable and explosive gases. Keep arcs, sparks, flames and lighted tobacco away. Use flashlight to check battery electrolyte level. Always check with engine stopped.

Do not charge a battery or jump-start the engine if the battery is frozen. Warm to 60˚F (15˚C) or the battery may explode.

Tire Maintenance

WARNING: Explosive separation of a tire and/or rim parts can cause serious injury or death. Always follow the manufacturer's recommendations or see your tire supplier.

Special tools and procedures are required to change truck tires. To do it safely, it must be done correctly. Follow the step-by-step instructions given in a tire repair manual. Changing tires is a job better done by your tire service company. Always maintain the correct tire pressure. Do not inflate the tires above the

recommended pressure. Be sure to replace tire ballast if machine is so equipped. See manufacturer's specifications for ballast requirements. Inspect tires and wheels daily. Do not operate with low pressure, cuts, bubbles, damaged rims or missing lug bolts or nuts. Never cut or weld on the rim or rim parts. This could cause explosive decompression. If the tires are filled with nitrogen Do NOT add air. Fill only with dry nitrogen, using proper inflating equipment. Keep wheel lug nuts tightened to manufacturer's recommendations. A rise in tire pressure is normal during operation. It should NOT be reduced. When adjusting tire pressure, do so from a distance. Use a long hose with self-attaching chuck. Always stand behind tread when adjusting tire pressure.

Tire Repair

Tires are to be repaired only by a qualified individual using the proper procedures and safety equipment.

WARNING: Always use a safety cage or cable restraints when reinflating a repaired tire.

Air Reservoir Tank

Drain tank (if so equipped) daily. In cold weather, it is especially important that the air tank(s) be thoroughly drained at least once per shift. Be sure drain is closed before starting engine.

Complete Service and Repairs Before Machine Is Operated

Tighten all bolts, fittings, and connections to torques specified by the manufacturer. Install all guards, covers, and shields after servicing. Replace or repair any damaged ones. Refill and recharge pressure systems only with manufacturer approved or recommended fluids.

Start the engine and check for leaks. (See above for hydraulic fluid warning) Operate all controls to make sure machine is functioning properly. Cycle the boom, swing and outrigger controls several times to be sure cylinders are fully charged with oil. Road test machine if necessary. After testing, shut down, check the work you performed (any missing cotter pins, washers, locknuts, etc.). Recheck all fluid levels before releasing machine for operation.

Inspect all parts during repair and replace if cracked or damaged. Excessively worn or damaged parts can fail and cause injury or death. Replace any damaged or illegible decals.

WARNING: When hose, oil or other components that pass through the insulated section of the boom(s) are replaced, an electrical insulation test must be performed. (See above about Insulated Test)

If you don't know what you're doing - don't do it.
Get a safe start.
Protect yourself with the proper equipment.
Relieve pressure before working on pressure components.
Exhaust fumes kill.
Perform a proper insulated test.
Use jacks and hoists carefully.
Use care when servicing batteries.
Pressurized fluid can cause injuries.
Fuel and flame are a dangerous combination.
You're riding on them - you keep them safe.
Tire repair is for qualified personnel only.

Training

The RSO will identify all new employees in the employee orientation program and make arrangements with department management to schedule training.

Before we begin training a new employee, our Bucket Truck Program Administrator, [RSO Name] and/or the Area Supervisor, determines if the potential bucket truck operator is capable of performing the duties necessary to be a competent and safe operator. This is based upon his/her physical and mental abilities to perform job functions that are essential to the operation of the truck.

These capabilities include the level at which the operator must:

- See and hear within reasonably acceptable limits, (this includes the ability to see at a distance and peripherally, and in certain instances, it is also necessary for the operator to discern different colors, primarily red, yellow, and green);
- Endure the physical demands of the job; and
- Endure the environmental extremes of the job, such as the ability of the person to work in areas of excessive cold or heat. An operator must be able to climb onto and off of a bucket, and to stand in the lift for extended periods of time.

Once our Administrator determines that a potential operator is capable of performing bucket truck duties, the following person(s) will conduct initial training and evaluation: RSO and/or Area Supervisors. These instructor(s) have the necessary knowledge, training, and experience to train new bucket truck operators.

Retraining shall be accomplished annually or when an employee shows a lack of understanding of bucket truck safe operating procedures.

FLEET MOTOR VEHICLE SAFETY

Purpose

Half of all accidental deaths in the US are caused by motor vehicles. The greatest cause of job related fatalities in the U.S., is the driving of personal or company vehicles. The safety of our employee and the protection of the property of others is a concern of Smith Foods Inc. This Fleet Motor Vehicle Safety Program was developed to assure this safety and protection.

The Fleet Motor Vehicle Safety Program applies to all locations where Company vehicles are operated. Company operated vehicles include:

Company Cars and Vans
Company pool cars and vans
Company delivery vehicles and trucks

Administration

RORY B BARTON , Fleet Manager is responsible for the development and implementation of this program. He/she is responsible for all motor equipment operations and to serve as a single point of contact for issues, information and reports on motor equipment. The Fleet Manager will maintain vehicle use records including home-to-work usage.

No employee shall use a Company vehicle for transportation between their home and place of employment without the expressed written approve of the Fleet Manager.

Fleet Manager Responsibilities

Each Branch Office Manager, which operates motor vehicles, shall designate in writing a local motor vehicle manager who shall be responsible for directing the operation of the motor vehicle fleet, and shall:

- Operate the fleet in accordance with applicable laws and regulations, and Company and local directives;
- Ensure that an adequate system of records including logs of home-to-work usage are established and maintained;
- Perform and document reviews at least annually of assignments to individuals or organizational components to determine if continued assignment is justified;
- Perform and document an annual review of motor vehicle utilization statistics to identify underutilized motor vehicles;
- Rotate motor vehicles between high and low mileage assignments;
- Perform documented trend analyses of the annual costs of the motor vehicle fleet and review present operations and new requirements for the purpose, where feasible and cost effective, of establishing alternative sources for the motor vehicle fleet operation, e.g., pooling arrangements, shuttle bus service, taxicabs, and joint utilization by several groups; and
- Assure the maintenance of individual motor vehicle use records, such as trip tickets or vehicle logs, showing sufficiently detailed information to evaluate the appropriateness of assignment and adequacy of use being made. If one-time use is involved, such as assignments from motor pools, the individual's trip records must, as a minimum, identify the motor vehicle and show the name of the operator, dates, destination, time of departure and return, and mileage;

Policy

Any employee that is authorized to operate a Company truck or vehicle must meet all requirements of the Federal Highway Administration and State Government Regulations. Employees that are assigned to operate any kind of vehicle that has a gross combination weight rating of 26,000 or more pounds are required to have a current, valid Commercial Driver's License (CDL), issued by the state.

All company-owned vehicles will be operated only by employees authorized by the Fleet Manager for specific company purposes.

Vehicles will be maintained in a safe condition at all times. In the event of an unsafe mechanical condition, the vehicle will be immediately placed out of service and the Fleet Manager notified.

Only qualified company vehicle mechanics or approved service facilities are permitted to perform maintenance on company vehicles.

All vehicles will be operated, licensed and insured in accordance with applicable local, state and federal laws.

All employees authorized to operate any company owned or leased vehicle will be included in the company random drug-testing program.
All authorized employees must possess a valid state driver's license for the class vehicle authorized.

Authorized employees must have a driving record at least equal to that required for maintaining a commercial driver's license.

Driver Qualifications

Accident control for our fleet begins with the selection of company drivers. Only the most qualified drivers should be selected, both for full-time and part-time drivers.

Employees are often responsible for operating expensive equipment and handling valuable or hazardous cargo. Employee selection must begin with well-defined requirements for each job that includes the duties of the job, the physical and mental attributes required, and the education of training required. The applicant's ability and skills, experience with similar jobs, job knowledge and attitude towards safety are be considered.

The following lists the *"minimum"* qualifications that must be met (and maintained) by any employee assigned to drive a Company truck or vehicle, other than a company care or passenger van:

- Applicants must be at least 21 years of age.
- Applicants must be able to read, speak and write fluently in English.
- Applicants must understand highway traffic signs and signals
- Applicants must be able to respond to official inquiries and to make written entries on reports and records
- Is physically qualified to operate a motor vehicle and has no movement limitations concerning their arms, legs, foot, head, waist, back, hands or fingers.
- Has no established medical history that would interfere with their ability to operate a motor vehicle to include:

    - Myocardial infarction, coronary difficulty, or any heart condition
    - Diabetes
    - Respiratory dysfunction
    - High Blood Pressure
    - Epilepsy
    - Mental, nervous, or other functional or psychiatric disorder
- Arthritis, neuromuscular, or vascular disease
- Has the visual acuity and binocular vision of at least 20/40 (with or without corrective lenses), and the field of vision of at least 70 degrees in each eye.
- Does not have an average hearing loss in the better ear greater than 40 decibels at 500 Hz, 1000 Hz, and 2000 Hz with or without a hearing aid.
- Has passed a pre-employment drug test.
- Does not use drugs that fall into the following categories: opiate, hallucinogenic, depressant, or stimulants.
- Have a valid Commercial Driver's License
- Has furnished a list of all motor vehicle accidents AND convictions that have occurred in the last 3 years.
- Has successfully completed a Company monitored road test.
- Has completed a Company written examination.
- A background investigation of the applicant's driving record and employment record over the past three years have been completed.

Home Use

Only the Fleet Manager may approve the use of Company vehicles between residence and place of employment. The approval process for the use of vehicles between residence and place of employment will be different based on the reason for approval.

Employees engaged in field work will be approved on the basis of positions. Each office requesting approval of vehicle use between residence and place of employment for employees engaged in field work shall submit justification, in memorandum form, to the Fleet Manager. This justification shall include the position title and series, number of employees affected, name and title of person requesting approval, dates, location of official duty station, frequency and duration of the field work, and justification for the use of the vehicles.

After the initial justification for each position has been approved, the requesting office should reassess and resubmit justification every year.

If a position is approved for the use of a vehicle between residence and place of employment based on field work, the approval is only in effect when an employee is actually engaged in field work and should not be interpreted as authorization to use the vehicle at anytime other than when conducting field work.

Usage Documentation

Each employee using a vehicle between his or her residence and place of employment will maintain a record identifying the vehicle used (license plate number), destination, starting and ending mileage and purpose of trip. This record will be turned into the Fleet Manager monthly. The record(s) shall be maintained together with the request for and approval of the use of a government vehicle between

residence and place of employment. These records shall be readily available for audit until disposed of according to established records management procedures.

Driver Education

Initial education of a new employee an ongoing training of current employees is extremely important in a motor vehicle safety program. All employees should be familiar with the correct procedures in operating Company motor vehicles, as well as loading or unloading any property onto vehicles.

Seat Belts

The use of seat belts is mandatory for all employees when driving company or personal vehicles on company time. All passengers are also required to wear seat belts.

Use and Care of Company Vehicles

Anyone who operates a licensed vehicle owned or controlled by this company must possess a valid driver's license. You are responsible for all personal property left in any company vehicle.

The Vehicle

- All drivers are required to inspect their vehicles on a regular basis.
- Check oil level, water or antifreeze, tires, exhaust system, and windshield wipers.
- Check for loose wheel nuts, oil, water, fuel or air leaks.
- Check for proper vision and clean windshield. Adjust seat, mirror, etc.
- Check all safety equipment assigned to your vehicle.
- Check all instruments.
- Check air and/or hydraulic pressure.
- Check sound of engine.
- Start equipment and make sure all controls are operating properly.

Winter Checklist

- Clear snow, ice and/or frost from all windows.
- Check proper ventilation when operating or sitting inside a vehicle with the motor running.
- Keep the vehicle clean of trash and cans, etc., that could impede operation.
- Large items such as tool boxes and fire extinguishers should be secured.
- Orange cones must be placed at the front and rear of the vehicle when parked.

Accident Reporting & Investigation

Management has the responsibility to see that drivers are adequately trained on what to do when an accident occurs. All information should be recorded and reported promptly to the insurance carrier. The driver involved in an accident has the important duty of making the initial report of the accident. The driver will usually contact the home base or terminal about the accident and then gather the information needed. Even minor accidents must be reported to management to protect against potential claims.

The importance of the driver's report and conduct at the scene cannot be minimized. What they say and do at the accident scene can either help or hinder the successful settlement of the accident case. Drivers must know what to do and say to handle situations as they arise.

The following is the recommended procedure for drivers at the scene of an accident in which they were involved:

1. Stop the vehicle immediately and shut off the engine.
2. Protect the accident scene from further mishap by turning on four way flashers and by placing flares and reflectors at a safe distance. Extinguish fires and do not smoke at the scene. If necessary, direct traffic around the accident scene. (Department of Transportation regulations specify the location and distance of warning devices in disabled vehicle situations.)
3. See that injured persons are cared for until medical help arrives.
4. See that help, such as police, medical personnel, and wreckers, are summoned to the scene as needed. Make sure the police inspect the damage and make notes of bodily injury (if any). Write down names, badge numbers, and stations of investigating officers.
5. Be prepared to provide lists of any hazardous materials involved to fire department personnel.
6. Be alert to statements made by occupants of other vehicles. Take down any remarks concerning admissions of guild, defective conditions of other vehicles, extent of injuries and property damage.
7. Make no statements to occupants of other vehicles or witnesses regarding your fault, injuries or condition of your vehicle.
8. **Always obtain:**
    a. **License plate numbers of other vehicles.**
    b. **Other driver's license numbers, names and addresses.**
    c. **Names and addressed of owners or vehicles.**
    d. **Information on damage to other vehicles and any injuries.**
    e. **Name and address of all witnesses (including vehicle occupants).**

A diagram of the accident scene showing location of vehicles after the collision.

All accidents should be reported to the Supervisor as soon as possible.

Vehicle Maintenance

The primary purpose of a vehicle maintenance system is to ensure safe and efficient vehicle performance which can help to extend the vehicle's life and avoid accidents. The Company maintenance program provides the following benefits:

- Accidents caused by brakes, tires, steering, and other component failure can be substantially reduces by proper maintenance.
- Preventative maintenance can minimize interruptions of regular work schedules caused by breakdowns.
- Regularly scheduled inspections made at proper intervals provide opportunities to make minor repairs and adjustments that may help to prevent unnecessary and costly repairs.
- Commercial drivers may take pride in equipment that is kept in top operating condition, and may be more likely to drive safely and to handle equipment with care.
- Fleet management recognizes the important sales and public relation value of keeping equipment clean and well maintained. Trucks are traveling billboards and can reflect a safety-minded company.
- Drivers should be responsible for the condition and safe operation of their assigned vehicles. Drivers should check their vehicles for possible defects and report them for correction according to company policy. Driver vehicle conditions reports furnish valuable information for evaluating the efficiency of the maintenance system.

JOBSITE VEHICLES, TRAFFIC CONTROL, BARRICADES, & WARNING SIGNS

These written procedures establish guidelines to be followed for traffic and transportation on jobsites. The procedures here establish uniform requirements designed to ensure that traffic and transportation safety practices are communicated to and understood by the affected employees. These requirements also are designed to ensure that procedures are in place to safeguard the health and safety of all employees. It is the intent of [Company Name] to comply with the requirements of all applicable OSHA regulations.

Administrative Duties

[RSO Name], RSO is responsible for developing and maintaining the written Traffic and Transportation Procedures. These procedures are kept in the RSO's office.

Jobsite Vehicles

Vehicles which are utilized on jobsites exclusively and are, therefore, excluded from the provisions of applicable traffic and vehicular codes shall be equipped and operated in the following manner:

- Vehicles shall have a service brake system, an emergency brake system, and a parking brake system. These systems may use common components, and shall be maintained in operable condition.
- Whenever visibility conditions warrant additional light, all vehicles, or combinations of vehicles, in use shall be equipped with at least two headlights and two taillights in operable condition.
- All vehicles, or combination of vehicles, shall have brake lights in operable condition regardless of light conditions.
- Vehicles with cabs shall have windshields and powered windshield wipers. Cracked or broken windshields shall be replaced promptly. Where fogging or frosting of windshields is prevalent, operable defogging or defrosting equipment shall be required.
- Tools and material shall be secured to prevent movement when transported in the same compartment with employees.
- Vehicles used to transport employees shall have seats firmly secured and adequate for the number of employees to be carried.
- Vehicles on construction sites, not covered by the provisions of applicable OSHA or state DOT regulations shall have installed seat belts and anchorages meeting the requirements of 49 CFR Part 571 (Department of Transportation, Federal Motor Vehicle Safety Standards).
- The employer shall require the use of seat belts.
- Vehicles excluded from provisions of applicable OSHA regulations shall be equipped with fenders or, if vehicle is not designed for fenders, mud flaps.
- Vehicles not covered under other sections shall be checked at the beginning of each shift to assure that the following parts, equipment, and accessories are in safe operating condition and free of apparent damage that could cause failure while in use: service brakes, including trailer brake connections; parking system (hand brake); emergency stopping system (brakes); tires; horn; steering mechanism; coupling devices; seat belts; operating controls; and safety devices. All defects shall be corrected before the vehicle is placed in service. These requirements also apply to equipment such as lights, reflectors, windshield wipers, defrosters, fire extinguishers, etc., where such equipment is necessary.
- Where vehicles are operated, temporary covers for conduits, trenches and manholes and their supports, when located in roadways and vehicular aisles, shall be designed to carry at least 2 times

the maximum intended vehicular live load and they shall be designed and installed as to prevent accidental displacement.

Traffic Control, Barricades & Warning Signs

- Where a hazard exists to employees because of traffic or haulage conditions at work sites that encroach upon public streets or highways, a system of traffic controls in conformance with the OSHA and other state regulations.
  NOTE: Additional means of traffic control, such as continuous patrol, detours, barricades, or other techniques for the safety of employees may be employed. Criteria for position, location and use of traffic control devices described in the "Manual" is not mandatory. It is furnished solely for the purpose of guidance and information.
  Specifications for the size and design of signs, lights, and devices used for traffic control shall be as described by OSHA and other state regulations.
- Employees (on foot) exposed to the hazard of vehicular traffic shall wear orange, strong yellow-green, or fluorescent versions of these colored warning garments such as vests, jackets, or shirts. During rainy weather, employees exposed to the hazard of vehicular traffic may wear orange, strong yellow-green, or yellow rainwear.
- During hours of darkness, warning garments shall be retroreflective. The retroreflective material shall be visible at a minimum of 1,000 feet. The retroreflective clothing, or the retroreflective material added to the clothing, shall have a minimum of one horizontal stripe around the torso. White outer garments with retroreflective material that meets the above requirements may be worn during hours of darkness in lieu of colored vests, jackets and/or shirts.

Flaggers

- Flaggers shall be utilized at locations on a construction site where barricades and warning signs cannot control the moving traffic.
- When flaggers are required, they shall be placed in relation to the equipment or operation so as to give effective warning.
- Placement of warning signs shall be according to OSHA and other applicable state and federal regulations..
- Flaggers shall wear orange, strong yellow-green, or fluorescent versions of these colored warning garments such as vests, jackets, or shirts. Rainwear, when worn, shall be orange, strong yellow-green, or yellow.
- During the hours of darkness, flaggers' stations shall be illuminated such that the flagger will be clearly visible to approaching traffic and flaggers shall be outfitted with reflectorized garments. The retroreflective material shall be visible at a minimum distance of 1,000 feet. The retroreflective clothing, or the retroreflective material added to the clothing, shall have a minimum of one horizontal stripe around the torso. White outer garments with retroreflective material that meets the above requirements may be worn during hours of darkness in lieu of colored vests, jackets and/or shirts.
- Flaggers shall be trained in the proper fundamentals of flagging moving traffic before being assigned as flaggers. Signaling directions used by flaggers shall conform to the applicable OSHA, state and federal regulations. The training and instructions shall be based on the OSHA, and other state and federal regulations, and work site conditions and also include the following:
  (1) flagger equipment which must be used,
  (2) layout of the work zone and flagging station,
  (3) methods to signal traffic to stop, proceed or slow down,

(4) methods of one-way traffic control,
(5) trainee demonstration of proper flagging methodology and operations,
(6) emergency vehicles traveling through the work zone,
(7) handling emergency situations,
(8) methods of dealing with hostile drivers,
(9) flagging procedures when a single flagger is used (when applicable),

- Documentation of the training shall be maintained as required OSHA regulations.
- Flaggers shall be trained by persons with the qualifications and experience necessary to effectively instruct the employee in the proper fundamentals of flagging moving traffic.

ERGONOMICS

General Company Policy

The purpose of this program is to inform interested persons, including employees, that COMELCO, INC. is committed to improve our employees' comfort and well-being by identifying and correcting ergonomic risk factors on the job. This program applies to all work operations, both in our plant and in the office areas. Our RSO coordinates all safety and health programs for [Company Name]. He/she reviews the Ergonomics Program and provides guidance, as needed.

COMELCO, INC. has implemented this ergonomics program to address the problem of musculoskeletal disorders (MSDs). MSDs have become an issue of increasing concern because they continue to rise in occurrence.

Under this program, a team of our employees will evaluate jobs which they have identified as having "problem areas" and develop and implement solutions to reduce job-related worker injury and illness.

Our goal through this Ergonomics Program is to prevent the occurrence of work-related musculoskeletal disorders by controlling or eliminating the risk factors which cause them. This program ensures that all affected employees are aware of job-related risk factors and provides information and solutions to elevate them.
COMELCO, INC. promotes continuous improvement for the efficiency, comfort, and well-being of all employees through a team effort of management and employee involvement.

If, after reading this program, you find that improvements can be made, please contact our RSO. We encourage all suggestions because we are committed to the success of our Ergonomics Program. We strive for clear understanding, safe and efficient work practices, and involvement in the program from every level of the company.

Ergonomics Team

RORY B. BARTON , RSO is responsible for our Ergonomics Program. The Ergonomics Team has developed objectives for ergonomic improvements within our company and methods for identifying and resolving these problem areas. The written plan for these goals, objectives, and solutions may be obtained from RORY B. BARTON , RSO in RSO's office.

Our Ergonomics Team is comprised of a cross section of employee representatives from various departments/areas and staff levels in our company. [Company Name] Management Team is committed to the success of this program by providing resources and the staff time necessary to identify and correct problem jobs.

The Team members have been trained to recognize problem jobs, identify risk factors, and develop solutions to reduce those factors. Elements of this training include the identification of workplace risk factors; job analysis methods, implementation and evaluation of control measures, and teamwork skills.

Injury/Medical Management

Our health care provider chosen to provide medical treatment for our employees with injuries or illnesses relating to ergonomic factors has visited our facility and are familiar with our specific workplace job procedures and the job risk factors.

We encourage all employees to immediately report any symptoms of discomfort that may be associated with their job duties. In most cases, employees are to report to their immediate supervisor. Those supervisors are responsible to recommend alternative work or medical evaluation for injured or ill employees.

Supervisors record and file written reports from the first observation of illness or injury through all subsequent follow-up activities. They are also responsible to forward information about the worker injury or illness for recording on the OSHA 300 Injury and Illness Form. The supervisor may recommend that the job receive an evaluation from the Ergonomics Team.

Every work procedure that causes a worker injury or illness will be investigated and reported. This documentation provides vital information for the identification of job related risk factors so that the problems can be corrected before other injuries occur.

The Ergonomics Team has developed a list of light and restricted duty jobs which have low musculoskeletal risks. This list is a valuable resource for assigning duties to recovering employees until they can resume their normal job functions.

After verification of an employee's job-related injury or illness, our RSO and the Ergonomics Team will review this plan and re-evaluate the work station to determine if additional practices, procedures, or redesign of the station could be implemented to prevent similar injuries.

Identifying Problem Jobs

There are several methods used to identify problem jobs which are most likely to result in ergonomic disorders. The Ergonomics Team initially reviewed and periodically monitors [Company Name] injury and illness records such as the OSHA 300 form and workers' compensation data to identify patterns of ergonomic-related injuries and illnesses.

In addition, jobs are evaluated for the following risk factors:

- Rate and number of repetitions: performance of the same motion or motion patterns every few seconds for more than two hours at a time.
- Postures and limb positions: fixed or awkward work postures such as overhead work, twisted or bent back, bent wrist, stooping, or squatting, for more than a total of two hours.
- Vibration: use of vibrating or impact tools or equipment for more than a total of two hours.
- Loads/lifted: lifting, lowering, or carrying of anything weighing more than 25 pounds (11.34 kg) more than once during the workshift.
- Loads/static: holding a fixed or awkward position with arms or neck for more than ten seconds.
- Muscle forces: continually pulling or pushing objects.
- Work pace: piece rate or machine paced work for more than four hours at a time (legally required breaks cannot be included when totaling the four hour limit).

Ergonomics Team members participate in evaluating new equipment and processes for potential risk factors. They also evaluate hand tools to determine if the designs are ergonomically suitable for the intended use and appropriate for the workers who use them.

Solutions

When a job, process, or equipment has been evaluated, the Team completes a risk factor checklist. Through this checklist, problems are identified for correction and supervisors and employees in the affected areas are notified. The Ergonomics Team, in conjunction with those affected employees, will develop possible solutions, choose the most appropriate, implement the changes, and follow up to determine the effectiveness.

For each problem job which has been changed, we maintain a file of the improvements and changes completed. The file contains documentation of the ergonomic-related illnesses or injuries, the actual changes made, and any similar incidents which occurred after the changes were implemented.

Employee Training

[Company Name]'s management staff receives copies of this written ergonomics program and the company's policy statement regarding ergonomics in our workplace. We train each employee who works at a job with exposure to specific risk factors and each employee in a job where a work-related musculoskeletal disorder has been recorded.

These are the ergonomic elements we teach to all employees:

- How to recognize workplace risk factors associated with work-related musculoskeletal disorders and the ways to reduce exposure to those risk factors.
- The signs and symptoms of work related musculoskeletal disorders, the importance of early reporting, and medical management procedures.
- Reporting procedures and the person to whom the employee is to report workplace risk factors and work-related musculoskeletal disorders.
- The process [Company Name] is taking to address and control workplace risk factors, each employee's role in the process, and how to participate in the process.
- Opportunity to practice and demonstrate proper use of implemented control measures and safe work methods which apply to the job.
- Each employee involved in job analysis will be trained in job analysis methods, especially as they relate to identifying workplace risk factors, and evaluation and implementation of control measures.
- This company will not implement any policy or practice which discourages reporting or which results in discrimination or reprisal against any employee who makes a report.

Enforcement

Constant awareness of and respect for ergonomic hazards, and compliance with all safety rules are considered conditions of employment. Supervisors and individuals in the Safety and Personnel Department reserve the right to issue disciplinary warnings to employees, up to and including termination, for failure to follow the guidelines of this program.

EXTREME TEMPERATURE SAFETY

Many workers spend most, if not part, of their working day in a cold or hot environment. They often face hot conditions which pose special hazards to safety and health. COMELCO, INC. is committed to ensuring the safety of all employees subject to extreme temperatures while at work. This Extreme Temperature Safety Program was developed to establish guidelines and Safe Operating Procedures for our employees.

Administration

RORY B. BARTON , RSO is responsible to the implementation and maintenance of this program. A copy of the Extreme Temperature Safety Program is located in the RSO's office.

Purpose

To ensure all employees understand the basic elements that are required to work safely in extreme weather conditions or temperatures.

Goals

To prevent work-related injuries or deaths that may result from exposure to hot or cold weather or weather related conditions.

Factors

The environmental factors that affect the amount of stress a worker faces.

1) Temperature 3) Radiant Heat
2) Humidity 4) Air Velocity

Individual Factors:

1) Age 3) Fitness 5) Acclimatization to the heat
2) Weight 4) Medical Condition

The body reacts to high external temperatures by circulating blood to the skin which increases skin temperature and allows the body to give off its excess heat through the skin. If the muscles are being used for physical labor, less blood is available to flow to the skin and release the heat.

In cold environments, the reverse occurs, the blood's circulation to the extremities is decreased in order to maintain a core temperature to sustain life.

Heat Disorders

- Heat Stroke
    - Failure of the body's internal mechanism to regulate it's core temperature.
    - Sweating stops.
    - Mental confusion, loss of consciousness, convulsions, or coma.
    - Body temperature of 106 degrees F or higher.
    - Hot dry skin which may be red, mottled, or bluish.

- Treatment
    - Move to cool, shaded area, soak clothing with cool water .
    - Fan to cool down quickly.
    - Prompt first aid can prevent permanent injury to the brain and vital organs.

- Heat Exhaustion
    - Results from loss of fluid - worker has failed to drink enough fluids or take in enough salt or both.
    - Extreme weakness or fatigue, giddiness, nausea, or headache.
    - Sweats.
    - Skin is clammy and moist, paled or flushed.
    - Body temperature is normal or slightly higher.
    - Treatment
        - Rest in cool place and drink water or an electrolyte solution (such as Gatorade).
        - Severe cases may include vomiting and loss of consciousness -seek medical attention.

- Heat Cramps
    - Painful spasms of the muscles, caused when workers drink large quantities of water but fail to replace the body's salt loss.
    - Affects the tired muscles - the ones used to work.
    - May occur during or after working hours.
    - Take liquids by mouth or seek medical care.

- Fainting
    - May be a problem for those not accustomed to a hot environment and who stand still in the heat.
    - Treatment
        - Lying down for a short time.
        - Moving around while working, rather than standing still.

Cold Injuries

- Frostnip
    - Freezing of top layers of skin tissue.
    - Generally reversible.
    - White, waxy skin, top layer feels hard, rubbery but deeper tissue is still soft. Numbness most typically seen on cheeks, earlobes, fingers, and toes.
    - Treatment
        - Rewarm the area gently, generally by blowing warm air on it or placing the area against a warm body part.
        - Do not rub the area -this can damage the effected area by having the ice crystals tear the tissue cells.

- Frostbite
    - Skin is white and has a "wooden" feeling all the way through.
    - Superficial frostbite includes all layers of skin.
    - Numbness, possible anesthesia.
    - Deep frostbite can include freezing of muscle and/or bone.

- Treatment
    - It is very difficult to rewarm the appendage without some damage occurring.
    - Superficial frostbite may be rewarmed as frostnip if only a small area is involved.
    - If deep frostbite, see below for rewarming techniques.
- Rewarming of Deep Frostbite:
    - Rewarm the effected body part by immersion into a water bath of 105-110 degrees Fahrenheit. No hotter or additional damage will result. This is the temperature which is warm to your skin.
    - Monitor the temperature of the water with a thermometer.
    - Remove constricting clothing.
    - Place the appendage in the water and continue to monitor the water temperature. This temperature will drop so additional warm water will be needed to maintain the 105-110 degrees. Do not add this warm water directly to the injury.
    - Circulate the water fairly constantly to maintain an even temperature.
    - The effected appendage should be immersed for 25-40 minutes.
    - Thawing is complete when the part is pliable and color and sensation has returned.
    - Once the area is rewarmed, there can be significant pain. Discontinue the warm water bath when thawing is complete.
    - Do not use dry heat to rewarm. It cannot be effectively maintained at the correct temperature and can cause burns further damaging the tissues.
    - Once rewarming is complete, the injured area should be wrapped in sterile gauze and protected from movement and further cold.
    - Once a body part has been rewarmed it cannot be used for anything.
    - It is essential that the body part be kept from refreezing. Refreezing after rewarming causes extensive tissue damage and may result in loss of tissue.
    - If you cannot guarantee that the tissue will stay warm, do not rewarm it. Once the tissue is frozen, the major harm has been done. Keeping it frozen will not cause significant additional damage.

- Chilblains
    - Caused by repeated exposure of bare skin to temperatures below 60 degrees.
    - Redness and itching of the effected area.
    - Found normally on the cheeks, ears, fingers, and toes.
    - Women and young children are the most susceptible.
    - The cold exposure causes damage to the peripheral capillary beds, this damage is permanent and the redness and itching will return with exposure.

Eye Injuries

- Freezing of the Cornea
    - Caused by forcing the eyes open during strong winds and not using goggles.
    - Treatment
        - Controlled, rapid rewarming - placing a warm hand or compress over the closed eye.
        - After rewarming, the eyes must be completely covered with patches for 24-48 hours.

- Snowblindness - Sunburn of the eyes
    - Wear good sunglasses with side shields or goggles.

    - In SNOW - eye protection is necessary on cloudy or overcast days as it is in full sunlight.
    - Snow blindness can even occur during a snow storm if the cloud cover is thin.
    - Occurs 8-12 hours after exposure.
    - Eyes feel dry and irritated, as if they are full of sand. Moving or blinking becomes painful, exposure to light hurts the eyes, eyelids may swell, eyes become red, and excessive tearing may occur.
    - Treatment
        - Cold compresses and a dark environment
        - Do not rub the eyes.

- Eyelashes Freezing Together
    - Put hand over the eye until ice melt. Wipe away moisture with a soft dry cloth.

Prevention

Engineering Controls
General ventilation and spot cooling by exhaust system.
Protection from radiant heat sources.
Cooling fans in hot conditions.
Eliminating steam leaks.
Equipment modifications.
Personal protective equipment.

Work Practices

- Provide and drink plenty of water - 1 quart per worker per hour.
- Train workers to recognize and treat heat stress disorders.
- Employers should consider an individual worker's physical condition and fitness for working in the hot environments. Some personnel may be at greater risk.
- Alternate work and rest periods - in a cool area.
- Schedule heavy work during the cooler parts of the day.
- Supervisors should be trained in detection of early signs of heat stress and should permit workers to interrupt their work if they are extremely uncomfortable.
- Appropriate use of personal protective equipment.

Acclimatization

Allowing time for the employee to become used to heat through short exposures followed by longer periods of work in the hot environment.

New employees and workers returning from an absence of two weeks or more should have a 5-day period of acclimatization. This period should begin with 50% of the normal workload and time exposure the first day and gradually build up to 100 percent on the 5th day.

Employee Training

RORY B. BARTON, RSO ensures that all employees are properly trained to work safely in extreme temperatures. This training includes:

- Recognize symptoms and signs of the various types of heat stress or exposure to freezing temperatures.
- Know procedures for reporting all illnesses or possible illnesses.
- Avoiding Frostbite and Cold Related Injuries
- “Buddy System” - keep a regular watch on each other’s faces, cheeks, ears for signs of frostbite/frostnip.
- Keep a regular “Self Check” for cold areas, wet feet, numbness or anesthesia.
- If at any time you discover a cold injury, stop and rewarm the area - unless doing so places you at a greater risk.
- Preventing Heat Stress
- Be aware of the need for fluid replacement and salt loss.
- Take into consideration the individual workers physical condition and health when determining their fitness for working in those types of environments.
- Special Considerations
- If the person is hypothermic and frostbitten, the first concern is core rewarming.
- Do not rewarm the frost bitten areas until the core temp approaches 96 degrees.
- No alcohol - vasodilation may increase fluid buildup.
- No smoking - nicotine is a vasoconstrictor which may increase the chances for developing frostbite.
- Do not touch metal with bare skin. The moisture on your skin will freeze to the metal. When you pull away, you may leave a layer of skin behind.
- Sweating in a hot environment is effective only if the humidity level is low enough to permit evaporation and the fluids and salts lost are adequately replaced.

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Disciplinary Action
Notice of Safety Infraction

We consider the safety of our employees to be very important. Therefore, to prevent accidents, it is our policy to strictly enforce company safety rules. Infractions of safety rules will result in the following:

1st Infraction – Written/Verbal Warning
2nd Infraction – Written Warning
3rd Infraction – 3 to 5 Day Suspension
4th Infraction – Dismissal

_____ **(Employee Name)** you have been observed working in the following unsafe manner, contrary to company safety rules:

This is your

☐ **First Infraction** ☐ **Second Infraction** ☐ **Third Infraction** ☐ **Fourth Infraction**

Action taken, therefore is:

_____ _____

RORY B. BARTON
(Supervisor Signature) (Date)

_____	_____
(Employee Signature)	(Date)

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Employee Safety Suggestion/Information Form

_____ thanks you for helping us improve safety and prevent workplace injuries and illnesses. Please complete this form to suggest ideas or report an unsafe workplace condition or practice.

Please describe what _____ can do to improve safety:

Please describe any unsafe workplace condition or practice:

What do you think are the causes or other contributing factors to this unsafe condition or practice?

Has this matter been reported to the area supervisor? ☐ YES ☐ NO

_____ _____

Employee Name (Optional) (Date)

Minutes of Safety Committee Meeting

Department: _____ Date: _____

Location: _____ Date Previous Meeting: _____

Attendance (also list absentees who should have attended meeting):

Minutes By: _____ Date of Next Meeting: _____

Minutes should serve as a record of important discussions on accidents and inspections, and action taken or suggested to correct accident producing conditions. List under the following headings:

1. Previous suggestions not acted upon (list and indicate why not, what to do now).

2. Accidents since last report (list & indicate corrective action necessary).

3. Other items discussed (based on inspections, suggestions, etc.)

4. Summary of new suggestions (indicate what is to be done & who is responsible).

5. Future plans (list items to be studied, reports to be made at next meeting, date, etc.).

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Safety Committee Accident Investigation Report

Name	**Age**	**Time**	**Date**
Department – Shift	**Job**	**How long on this job?**	
What Happened?			
Why Did It Happen?			
What Should Be Done?			
What Has Been Done Thus Far?			
How Will This Improve Operations?			

Investigated By		**Date**	
RSO Signature		**Date**	

NOTE: Number of injuries for this employee in the last 12 months: _____

ORIGINAL - MAIN OFFICE COPY

SUPERVISOR'S REPORT OF INJURY OR ILLNESS
REPORTE DEL SUPERVISOR DE LA LESION O ENFERMEDAD

Employer/Patron	Division/División

Name of Injured/Nombre Del Lesionado

Occupation/Ocupación

Date of Injury/Illness/Fecha de Lesiones/Enfermedades	Hour/Hora	
Month/Day/Year	A.M.	P.M.

Name and Address of Physician/Nombre Y Dirección Del Doctor

Nature of Injury/Clase De Accidente

Did Injured Leave Work?¿Se Fue Del Trabajo El Lesionado?	Date/Fecha	Hour/Hora	
		A.M.	P.M.

Was Injured Acting in Regular Line of Duty?/¿Se Ocupaba En Su Puesto Regular?

Where Did The Injury/Illness Occur?/¿Donde Sucedio de Lesiones/Enfermedades?

What Steps Should Be Taken To Prevent A Similar Injury or Illness? ¿Que Deberia De Hacer Para Prevenir de Lesiones/Enfermedades?

Date/Fecha	Supervisor's Signature/Firma Del Supervisor

SUPERVISOR'S REPORT OF INJURY/EXPOSURE

Employee's Name							
Job Position/Title							
Supervisor's Name							
Date and Time of injury							
Location							
Task being performed when injury occurred							
Date and Time injury was reported to you							
Name(s) of witness(es)							
Witness(es) comments							
Incident resulted in:	☐	Injury	☐	Fatality	☐	Property Damage	
First Aid given?		**Medical Treatment Required?**			**Workdays Lost**		
Describe how the injury or illness occurred							
What actions, events or conditions contributed most directly to this injury or illness?							
Could anything be done to prevent injuries of this type? If so, what?							

Signature of Supervisor		Date	

EMPLOYEE'S REPORT OF INJURY/EXPOSURE

Employees's Name					
Job Position/Title					
Shift Hours		Days Off		Supervisor's Name	
Date And Time of Injury			Location		
Task Being Performed When Injury Occurred					
Date, Time Injury Reported		**To Whom?**			
Name(s) Of Witness(es)					
Witness(es) Comments					
Describe How The Injury Occurred					
What Part Of The Body Was Injured					
Describe The Injuries In Detail					
Date, Time You First Sought Medical Attention					
Name Of Doctor and/or Hospital					
Could Anything Be Done To Prevent Injuries/Illnesses Of This Type? If So, What?					

	Signature of Employee		Date	

Employee Survey on Hazard Assessment

Name (Optional) _____

Department/Unit _____ Date _____

Work Location (if at alternate worksite) _____

Please assess your department/unit over the last year. Circle TRUE (T), FALSE (F) or DON'T KNOW(?). *Thank you for your honest assessment.*

Management Commitment and Employee Involvement			
T	F	?	1. Violence/threats are not accepted as "part of the job" by managers, supervisors and/or employees.
T	F	?	• Employees communicate information about potentially assaultive/threatening clients or visitors to appropriate staff.
T	F	?	• Management communicates information to employees about incidents of workplace violence.
T	F	?	• Employees feel they are treated with dignity and respect by other employees and management.
T	F	?	• Employees are basically satisfied with their jobs.
T	F	?	• Employees are basically satisfied with management.
T	F	?	• Employees are basically satisfied with the organization (i.e., mission, vision, goals).
T	F	?	• Employees generally feel "safe" when they are at work.
T	F	?	• Employees are familiar with the department's/unit's violence prevention policy.
Potential Risk Factors			
T	F	?	10. Employees do not work in high-crime areas.

T	F	?	• Employees do not work with drugs.
T	F	?	• Employees do not work with cash.
T	F	?	• Employees do not work with patients or clients who have a history of violent behavior or behavior disorders.
T	F	?	• Employees do not work in isolated work areas.
Hazard Prevention and Control			
T	F	?	• The department/unit has adequate lighting to, from and within the worksite.
T	F	?	• The employee parking garage is secure when arriving, leaving and during changes of shift.
T	F	?	• Access and freedom of movement within the workplace are restricted to those persons who have a legitimate reason for being there.
T	F	?	• Alarm systems such as panic alarm buttons, silent alarms, or personal electronic alarm systems are being used for prompt security assistance.
T	F	?	• Employees know to use security escort service after hours.
T	F	?	• After hours, the building is locked down with only one access point.
T	F	?	• Visitors are signed in and out.
T	F	?	• Exits are accessible and clearly marked.
T	F	?	• Employees are able to locate emergency equipment such as fire alarm boxes or emergency-generator outlets.

T	F	?	• Emergency equipment is accessible and free from obstruction.
T	F	?	• Employees are able to locate cellular phones, power-failure phones and/or radios for emergency communication.
T	F	?	• Employees know proper procedures if a bomb threat is announced.
T	F	?	• Employee emergency call-back list is up-to-date and available.
T	F	?	• Employees provide privacy to reflect sensitivity and respect for clients and visitors.
T	F	?	• Employees use the "buddy system" to work together if problems arise.
T	F	?	• Employees working in the field have cellular phones or other communication devices to enable them to request aid.
T	F	?	• Staffing levels are appropriate for department/unit functions.
T	F	?	• Reference manuals are up-to-date and available to employees.
T	F	?	• There is a grievance policy available to employees.
T	F	?	• There is a Safety Committee available as a resource to staff for any hazard concern.
Training			
			35. Employees have received training on the company's workplace violence prevention program.

T	F	?	• Employees know how to ask for assistance by phone or by alerting other staff.
T	F	?	• Employees have been trained to recognize and handle threatening, aggressive, or violent behavior.
T	F	?	• Employees have been trained in verbal de-escalation techniques.
T	F	?	• Employees have been trained in self-defense/restraint procedures.
Incidents and Reporting			
T	F	?	• This work unit/department has not experienced violent behavior and assaults or threats from strangers.
T	F	?	• This work unit/department has not experienced violent behavior and assaults or threats from clients or customers.
T	F	?	• This work unit/department has not experienced violent behavior and assaults or threats from others employed in the organization.
T	F	?	• This work unit/department has not experienced domestic violence issues.
T	F	?	• Employees are required to report incidents or threats of violence, regardless of injury or severity; the reporting system is clear.
T	F	?	• Medical and psychological counseling services were offered to employees who have been assaulted or threatened.

Office Hazard Checklist	Satisfactory	Needs Attention	Target Completion Date	Date Completed
Fire extinguisher areas are kept clear at all times.	☐	☐		
Means of egress are kept unblocked, well-lighted and unlocked during work hours.	☐	☐		
Excessive combustibles (paper) are not stored in work areas.	☐	☐		
Electrical machinery in good condition and properly grounded.	☐	☐		
Electric cords and phone cables secured to prevent tipping hazards.	☐	☐		
Aisles and hallways are kept clear at all times.	☐	☐		
Stairways equipped with non-slip tread and handrails.	☐	☐		
Safety treads provided on all step-stools and step-ladders.	☐	☐		
Designated employees are trained to respond to a fire or other emergency.	☐	☐		
Hot plates, coffee makers, and portable heaters are properly wired and turned off when not in use.	☐	☐		
***Clerical/Administrative Checklist**:*				
For VDT work stations, background and screen lighting are compatible and adjustable.	☐	☐		
VDT screen positions, chairs, and keyboard are adjustable.	☐	☐		
Employee training on preventing problems associated with VDT use.	☐	☐		
Workplaces are kept free of debris, floor storage and electrical cords.	☐	☐		
Adequate aisle space is maintained.	☐	☐		
File cabinet drawers are anchored to prevent tipping and are opened one at a time and closed when work is finished.	☐	☐		
Heaviest material stored in bottom drawers of file cabinets.	☐	☐		
Proper lifting techniques are used by employees to avoid overexertion and strain when lifting and carrying loads.	☐	☐		
***Delivery/Messenger Checklist** :*				
Defensive driving is practiced by employees and seat belts and shoulder harnesses are worn at all times.	☐	☐		
No alcohol or any intoxicating substance prior to or during work.	☐	☐		
Vehicles are locked when unattended to avoid criminal misconduct.	☐	☐		
Vehicles are parked in legal spaces and do not obstruct traffic.	☐	☐		
The speed limit that is safe for conditions is not exceeded.	☐	☐		
Employees park their vehicles in well-lighted areas and/or near entrances to avoid criminal misconduct.	☐	☐		
Name:	Date:			

Personal Protective Equipment

Certification of Hazard Assessment

Date of Hazard Assessment: _____

Person Certifying Hazard Assessment:_____

Title:_____

Task	Hazard	PPE Required	Department(s)	Comments

Hepatitis B
Vaccination Declination Form

Date _____

Employee Name: _____

Employee SSN: _____

I understand that due to my occupational exposure to blood or other potential infectious materials I may be at risk of contracting the Hepatitis B viral (HBV) infection. I have been given the opportunity to be vaccinated with Hepatitis B vaccine, at no charge to myself.

However, I decline the Hepatitis B vaccination at this time. I understand that by declining this vaccine, I continue to be at risk of contracting Hepatitis B, a serious disease.

If, in the future, I continue to have occupational exposure to blood or other potentially infectious materials and I want to be vaccinated with the Hepatitis B vaccine, I can receive the vaccination series, at no charge to me, at that time.

_____ _____
Employee Signature **Date**

_____ _____
RSO Signature **Date**
(RORY B. BARTON)

Employee Consent to Hepatitis B Vaccine

On _____, I _____ received information concerning the risk of occupational exposure to blood or other potentially infectious material in the position of _____, which has been determined as job classification exposure Category _____. I have received a copy of the Hepatitis B information packet which has been explained to me and I understand this information.

I have been informed and understand (1) that Hepatitis B vaccination may reduce the potential risk of occupationally contracted viral hepatitis infection, and (2) the risks of the Hepatitis B vaccination which may include pain, itching, bruising at the injection site, sweating, weakness, chills, flushing and tingling, and (3) to obtain adequate immunity to viral Hepatitis B, it will be necessary to receive all three vaccinations of the vaccine series which are administered one month and six months after the initial vaccination, and (4) that the vaccination will be provided to me free of charge by _____ . If at such future time the U.S. Public Health Service recommends a booster dose(s) of Hepatitis B vaccine, such booster dose(s) shall also be provided to me at no cost if I am employed by the facility in a job classification that involves some risk of an occupational exposure to blood or other potentially infectious materials.

If I leave the employment of this facility before the series is completed, it is my responsibility to contact my own medical provider to complete the vaccine series.

I hereby consent to the administration of the Hepatitis B vaccination and voluntarily acknowledge that:

- I do not have an allergy to yeast.
- I am not pregnant or nursing.
- I am not planning to become pregnant within the next six months.
- I have not had a fever, gastric symptoms, respiratory symptoms, or other signs of illness in the last 48 hours.

I do have the following known allergies:

Food: _____

Drugs: _____

Other: _____

YOU MAY WISH TO CONSULT WITH YOUR PHYSICIAN BEFORE TAKING THE VACCINE.

_____ _____

(Employee Name) (Date)

_____

(Social Security Number)

_____ _____

(Witness Signature) (Date)

Bloodborne Pathogens
Exposure Incident Investigation Form

Date of Incident : _____ Time of Incident : _____

Location : _____

Potentially Infectious Materials Involved:

Type : _____ Source : _____

_____ _____

Circumstances : {Work being performed, etc.} _____

_____

_____

How Incident Was Caused: {Accident, equipment malfunction, etc.}

_____

_____

_____

Personal Protective Equipment Used : _____

Actions Taken : {Decontamination, clean-up, reporting, etc.}

_____

_____

_____

Recommendations for Avoiding Repetition: _____

_____

_____

_____

_____ _____

(Signature) **(Date)**

Bloodborne Pathogens
Post-Exposure Evaluation and Follow-up Checklist

The following steps must be taken, and information transmitted to healthcare professional, in the event of an employee's exposure to Bloodborne Pathogen.

Activity	**Completion Date**
1. Employee furnished with documentation regarding exposure incident.	_____
2. Source individual identified: _____ (Source individual)	_____
3. Source individual's blood collected & results given to exposed employee.	_____
_____ Consent from source has not been obtained.	
4. Exposed employee's blood collected & tested:	_____
5. Appointment arranged for employee with healthcare professional	_____

_____
(Healthcare Professional Name)

Documentation forwarded to healthcare professional:

_____ Bloodborne Pathogens Standard.

_____ Description of exposed employee's duties.

_____ Description of exposure incident, including exposure routes.

_____ Results of source individual's blood testing.

_____ Employee's medical records.

_____ _____
(Signature) (Date)

Hazard Communication

List of Hazardous Substances

No.	Chemical Name	Common Name	Department / Work Area	*
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				
23				
24				
25				

*Please place a check in this column for any chemical identified in quantities of 55 gallons, 500 pounds, 200 cubic feet or greater.

Lockout Tagout Schedule

Equipment or Process:_____

Location of Equipment: _____

A tag is required on each Isolation Location listed below. The Specific Type of Lock must be applied at the location listed

Date prepared _____ Prepared by _____

Type of Energy	Isolation Location	Type of Lockout Device
Electrical		
Potential (Stored)		
Kinetic (in-motion)		
Pneumatic (air - gas pressure)		
Hydraulic		
Thermal		
Chemical		

Special Hazards	Procedure for Control of Special Hazard

Special Procedures

Stored Energy Release Procedure

Notes
Isolation Location shall positively identify the exact breaker, valve, switch or other disconnect or blocking device to be locked and tagged to isolate the source of energy from the work area.
Type of Lockout shall specifically name the exact type of locking device needed to ensure the disconnect or blocking device stays in the isolated condition/position. i.e.. Breaker Clip, Valve Handwheel Cover, Blank Flange, etc.
Stored Energy: Following the application of the lockout or tagout devices to the energy isolating devices, all potential or residual energy will be relieved, disconnected, restrained, and otherwise rendered safe.

Procedure for Lockout Tagout Removal

This form must be completed before removal of any lockout or tagout by a person other than the person placing the lockout or tagout on equipment.

Lockout/Tagout originator has been called and:

_____ was reached and reported back to work to remove lock or tag.

_____ could not be reached.

Equipment Locked/Tagged Out _____ Date _____

Location _____

Reason Locked/Tagged Out _____

_____

Person Locking/Tagging Out _____ Date _____

Reason Removing Lock or Tag _____

_____

_____

Have you checked to ensure safety of removal? ____ Yes ____ No

_____
Employee Signature

Cc: RORY B. BARTON/
RSO/ Supervisor

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Periodic – Annual Observation of Lockout Tagout Program

EMPLOYEE BEING OBSERVED	**PLANT #**	**DEPT. #**

BLDG. #	**MACHINE/EQUIPMENT/PROCESS**	**EQUIP. #**

OBSERVATION QUESTION	**YES**	**NO**	**COMMENTS**
1. Has all energy-isolating device been located?			
2. Does the plant provide devices specifically for lockout/tagout procedures?			
3. Are lockout/tagout devices durable enough to withstand plant conditions?			
4. When only tagout devices are used, are attachments non-reusable, attachable by hand, self-locking and non-releasable with minimum unlocking strength of 50 lbs.?			
5. Can the person using a lockout/tagout device be easily identified?			
Authorization: 6. Is an authorized person performing the lockout/tagout?			
Preparation: 7. Are affected employees notified when there is an application or removal of lockout/tagout devices?			
Shutdown: 8. Are normal “shutdown” procedures followed?			
Energy Isolation: 9. Are energy isolating device(s) located and energy source(s) separated from the machine?			
Lockout/Tagout Device Application: 10. Are lockout/tagout devices placed on each energy-isolating device?			
OBSERVATION QUESTION			
Stored Energy: 11. Are potentially hazardous, stored or residual energy relieved, disconnected or restrained?			
Verification of Isolation: 12. Does the authorized employee verify that de-energization of the equipment has been accomplished?			

Inspection: 13. Prior to removing locks/tags, has the work area been inspected, nonessential items removed and the machine components including guards, made operationally intact?			
Employee Notification: 14. Prior to removing locks/tags, have affected employees been notified and the work area inspected to ensure all employees are in a safe position?			
Lockout/Tagout Device Removal: 15. Have Lockout/Tagout devices been removed by the person who applied them?			
COMMENTS:			

OBSERVER INFORMATION

OBSERVER EMPLOYEE #	**OBSERVER SIGNATURE**	**TITLE**	**DEPT.**	**DATE**
EMPLOYEE #	**EMPLOYEE SIGNATURE**	**TITLE**	**DEPT.**	**DATE**

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Annual Lockout Tagout Administrative Review

Facility _____ Date _____

The Lockout - Tagout procedures for this facility have been reviewed for necessary changes. Each piece of equipment is listed and the required Lockout - Tagout isolation points (valves, breakers, disconnects, etc.) are properly identified.

Responsible Manager _____

The following changes have been made: (if no changes write "None")

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

Scaffolding Inspection Checklist

The *competent person* should use this checklist for daily inspections of the scaffold. It is not all-inclusive and should be used as a starting point for the *competent person* to develop a checklist specific to the type of scaffold and jobsite conditions encountered

Scaffolding Inspection Checklist	Yes	Needs Action
Is the footing of the scaffold sound, rigid, and capable of carrying 4 times the maximum intended load?		
Is the scaffold erected under the supervision of someone competent in scaffold erection?		
Are guardrails provided on scaffolds more than 10 feet above the ground?		
Are heavy loads placed over or near the bearers and not in the center of the plank?		
Is planking of sufficient stress grade or scaffold grade timber?		
Is planking of platforms overlapped not less than 6 inches or more than 12 inches or secured from movement?		
Where persons work under scaffold, is a 1/2 inch mesh screen provided between toeboard and guardrail?		
Are poles, legs or uprights of scaffolds plumb and securely braced to prevent swaying and displacement?		
Are defective parts on scaffold immediately replaced or repaired?		
Are guardrails and toeboards installed on all open sides and ends of scaffold platforms?		
Are scaffolds equipped with toeboards wherever there is a possibility that falling material could cause a hazard?		
Are toeboards at least four inches in height?		
When employees are working on suspended scaffolds, are life lines firmly anchored to an overhead structure and not to the scaffold?		
Are employees wearing body harnesses attached to life lines?		

Forklift Operator's Daily Forklift Inspection Report

Operator's Name: _____ Date: _____

Unit #: _____ Model: _____ Serial #: _____

Hour Meter Reading (Start of 1st Shift): _____ Special Attachments: _____

IMPORTANT!!! This check must be made by the forklift operator daily at the start of each shift.

✓ Check each safe item **X** each defect **NA-**not applicable

Inspection Checklist	1st Shift	2nd Shift	3rd Shift	*COMMENTS*
1. Engine Oil: Check level (When oil must be added, show number of quarts in "comments" column.)				
2. Fuel System: Check for leaks & report any immediately.				
3. Radiator: Check coolant level (caution).				
4. Tires: Check for foreign particles, gouges and cuts; check pneumatic tire pressure.				
5. Mast, Carriage, Fork, or Attachment: Check for loose or missing bolts & damage; check chain; check adjustment & operation.				
6. Oil & Water: Check for leaks.				
7. Truck Damage: Explain in comments.				
8. Operator's Compartment: Inspect for cleanliness.				
9. Engine Oil Gauge: Check pressure & report any abnormal pressure reading.				
10. Fuel: Check level.				
11. Ammeter: Check charging rate & report unusual readings.				
12. Safety Equipment (Rotating lights, back-up alarms, etc.): Check operation.				
13. Steering: Check operation.				
14. Brakes: Check brake pedal travel & parking brake adjustment.				
15. Truck Operation: Report any unusual operation or noises.				

1st Shift Operator's Signature: _____

2nd Shift Operator's Signature: _____

3rd Shift Operator's Signature: _____

Maintenance Department Monthly Forklift Inspection Record

Inspector's Name: _____ **Month** _____ **20** _____

Unit #: _____ **Model:** _____ **Serial #:** _____

Hour Meter Reading (Start of Week): _____ **Special Attachments:** _____

✓ **Check each safe item** **X each defect** **NA-not applicable**

Inspection Checklist		**COMMENTS**
1. Engine Off: Check oil level. When oil must be added & show number of qts in comments.		
2. Fuel System: Check for leaks. Report any leaks immediately.		
3. Radiator: Check coolant level (caution).		
4. Tires: Check for foreign particles, gouges and cuts; check pneumatic tire pressure.		
5. Mast, Carriage, Fork, or Attachment: Check for loose or missing bolts & damage; check chain; check adjustment & operation.		
6. Oil & Water: Check for leaks.		
7. Truck Damage: Explain in comments.		
8. Operator's Compartment: Inspect for cleanliness.		
9. Engine Oil Gauge: Check pressure & report any abnormal pressure reading.		
10. Fuel: Check level.		
11. Ammeter: Check charging rate & report unusual readings.		
12. Safety Equipment (Rotating lights, back-up alarms, etc.): Check operation.		
13. Steering: Check operation.		
14. Brakes: Check brake pedal travel & parking brake adjustment.		
15. Truck Operation: Report any unusual operation or noises.		
Additional Items to Inspect — Clean Air Cleaner		
Hydraulic Oil Level		
Clutch Oil Level		
Transmission Oil Level		
Oil Lines for Leaks		
Battery Compartment & Electrolyte Level		
Power Steering Oil Level		
Lift Chain Adjustment		

Inspector's Signature: _____ **Date:** _____

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Initial Forklift License Certification

Name _____ **Clock No.** _____

S***election Criteria***

I certify that I meet all of the following physical qualifications and that if any changes to my physical condition develops or if I no longer possess a valid State Drivers License, I will inform my supervisor within 24 hours.

- No adverse vision problems that are not corrected by glasses or contacts
- No adverse hearing problems that are not corrected by hearing aids
- No physical disorders that would impair safe operation
- No medication is being taken that will affect perception, vision, or physical abilities

Employee Signature: _____

Classroom Training	
Review of OSHA Standard 1910.178	**Safe Operating Procedures**
Load Handling & Vehicle Inspections	**Refueling / Recharge Procedure**
Special Environments	**Stability & Control**
Fuel Spill / Battery Acid Spill Procedure	**Safety around pedestrians**
Trainer Signature:	**Date:**

Hands On Training & Evaluation: Rating: 1=Poor 2=Fair 3=Good 4=Excellent			
Grade	**Area of Evaluation**	**Grade**	**Area of Evaluation**
	Familiarity w/ controls		Travel w/ load at proper height
	Slows at intersections		Lowers load smoothly & slow
	Sounds horn at intersections		Load properly balanced
	Obeys Signs		Smooth start & stop
	Plans route, checks doorways		Moves forks properly
	Proper cornering & turning		Dock plate inspection
	Proper Refueling		Yields to pedestrians
	Places-stacks load square & even		Drives forward under control
	Drives backward under control		Parks properly-neutralizes controls
	Proper approach to loads		Maneuvers w/ load properly
	Lifts load properly		Properly changes & charges battery
	Maintains clear view		Drives on ramps
Additional training is required for all areas graded as *Fair* or below			
Evaluator Signature		**Date:**	
Certification			
Written Exam Grade / Date		**/**	
Qualified - RSO Signature			

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Re-Evaluation Forklift License Certification

Type of Re-Evaluation Certification:

_____ **3 Year** _____ **Other** **If Other, Explain:** _____

Name _____ **Clock No.** _____

Selection Criteria

I certify that I meet all of the following physical qualifications and that if any changes to my physical condition develops or if I no longer possess a valid State Drivers License, I will inform my supervisor within 24 hours.

- No adverse vision problems that are not corrected by glasses or contacts
- No adverse hearing problems that are not corrected by hearing aids
- No physical disorders that would impair safe operation
- No medication is being taken that will affect perception, vision, or physical abilities

Employee Signature: _____

Hands On Training & Evaluation			
Rating: 1=Poor 2=Fair 3=Good 4=Excellent			
Grade	**Area of Evaluation**	**Grade**	**Area of Evaluation**
	Familiarity w/ controls		Travel w/ load at proper height
	Slows at intersections		Lowers load smoothly & slow
	Sounds horn at intersections		Load properly balanced
	Obeys Signs		Smooth start & stop
	Plans route, checks doorways		Moves forks properly
	Proper cornering & turning		Dock plate inspection
	Proper Refueling		Yields to pedestrians
	Places-stacks load square & even		Drives forward under control
	Drives backward under control		Parks properly-neutralizes controls
	Proper approach to loads		Maneuvers w/ load properly
	Lifts load properly		Properly changes & charges battery
	Maintains clear view		Drives on ramps
Additional training is required for all areas graded as *Fair* or below			
Evaluator Signature		**Date:**	
Certification			
Qualified - RSO Signature			

Aerial Lift - Scissor Lift Inspection Form

CONTRACTOR	
RENTAL COMPANY	
JOBSITE	
MAKE	
MODEL NUMBER	
SERIAL OR UNIT NUMBER	
TYPE OF FUEL	
DATE – WEEK OF	

- ✓ **Satisfactory**
- **X Needs Attention**

ITEMS	MON	TUE	WED	THU	FRI	SAT	SUN
Brakes							
Operating Controls Labeled							
Operating Controls Function							
Emergency Controls Function							
Fuel System							
Guards							
Handrails							
Entrance Gate / Chain							
Hydraulic System Leaks							
Load Charts & Labels							
Muffler/Exhaust Pipes							
Operating Manual							
Engineered Tie Off Point							
Tires & Wheels							
Outriggers							
Cables/Wires Intact							
Loose/Missing Parts							
Air System Leaks							
Batteries Leaking							
INITIALS OF OPERATOR							

COMMENTS:

Reviewed by: _____

RORY B. BARTON /Supervisor

Ergonomics Task Risk Analysis Checklist

Work Area _____ Date _____

Conducted by _____

Reviewed by _____ Date _____

"No" responses indicate potential problem areas that will receive further investigation.

1. Does the design of the primary task reduce or eliminate	YES	NO
bending or twisting of the back or trunk?		
crouching?		
bending or twisting the wrist?		
extending the arms?		
raised elbows?		
static muscle loading?		
clothes wringing motions?		
finger pinch grip?		
2. Are mechanical devices used when necessary?		
3. Can the task be done with either hand?		
4. Can the task be done with two hands?		
5. Are pushing or pulling forces kept minimal?		
6. Are required forces judged acceptable by the workers?		
7. Are the materials		
able to be held without slipping?		
easy to grasp?		
free from sharp edges and corners?		
8. Do containers have good handholds?		
9. Are jigs, fixtures, and vises used where needed?		
10. As needed, do gloves fit properly and are they made of the proper fabric?		
11. Does the worker avoid contact with sharp edges when performing the task?		
12. When needed, are push buttons designed properly?		

13. Do the job tasks allow for ready use of personal equipment that may be required?		
14. Are high rates of repetitive motion avoided by		
job rotation?		
self-pacing?		
sufficient pauses?		
adjusting the job skill level of the worker?		
15. Is the employee trained in		
proper work practices?		
when and how to make adjustments?		
recognizing signs and symptoms of potential problems?		