Safety Program

E-Con Electric, Inc

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Informational Note

This sample document is intended solely for educational and informational purposes and is not intended to set forth or establish any generally accepted industry guidelines or standards. The information contained in this document is merely suggested procedures based upon collective experience. These suggestions may or may not apply in any given situation. Under no circumstances should this document be used as a sole resource to supply the specialized advice necessary for developing an effective safety and accident prevention program.

Your safety program is intended to help you deal with the known and recognized hazards that you have chosen to focus upon, concentrating on hazards that may exist in your business. These guidelines and procedures are based on various state and federal laws and the collective experience of loss control professionals. The material is not intended to comply with any state, federal or local regulations. Use this resource material as a guideline only, and obtain the advice of appropriate professionals for specific information on special hazards or regulations that may apply to your particular operation and for developing forms and procedures for your business. Since each business situation is unique, this sample document should be edited to meet your specialized circumstances and needs. This sample form should not be considered legal or specialized safety advice.

Programs contained in this document are general enough to meet most state laws and regulations, however, it is strongly recommended that you consult a competent professional who is familiar with the specific laws and regulations of your state.

This safety information is designed to supplement your existing safety training and does not constitute a complete safety training program. Remember, the key to an effective program is using the safety program material and **implementing** it into your normal business operations.

Policy Changes Disclaimer

E-Con Electric Inc reserves the right to make any changes at any time by adding to, deleting, or changing any existing policy.

The rules set out in this manual are as complete as we can reasonably make them. However, they are not necessarily all-inclusive, because circumstances that we have not anticipated may arise. **E-Con Electric Inc** may vary from the policies and provisions in this manual if, in its sole discretion, the circumstances require.

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I. Management Commitment and Employee Involvement

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Safety Policy Statement

Safety is everyone's responsibility. It is the desire of **E-Con Electric Inc** to help provide a safe working environment for all employees.

To accomplish this, management will provide reasonable safeguards to help insure safe working conditions and support the safe and efficient development of all work activities.

The need also exists for recognizing that ***no job is so important and no order is so urgent that we cannot take time to perform our work safely.***

Employees are expected to use the safety equipment provided. Rules of conduct and rules of safety shall be observed. Safety equipment shall not be destroyed or abused.

The joint cooperation of employees and management in observance of this policy will help provide safe working conditions, help reduce work related accidents and will be to the mutual advantage of all. Therefore, I ask your cooperation and support to help make all our jobs safe.

Patrick Fink
President

Safety Director

A safety director is the key person in any program designed to create and maintain interest in safety because this person is responsible for coordinating the program, supplying the ideas and inspiration, while enlisting the wholehearted support of management, supervisors, and employees.

Duties of the Safety Director

- Develop written safety policies and procedures;
- Coordinate activities with safety committee;
- Inform management of proposed safety and health recommendations;
- Compile and distribute safety and health information to employees;
- Provides safety training for employees, supervisors, and managers;
- Arrange for training of new employees;
- Conduct routine workplace safety inspections;
- Complete and analyze accident investigation reports;
- Monitor and evaluate the effectiveness of safety and health programs;
- Assure compliance with government regulations; and
- Prepare progress reports on programs for management and safety committee.

Safety Director Announcement

I am pleased to announce that Bryan Gawlik has been appointed to the position of Safety Director for **E-Con Electric Inc**.

We are asking the Safety Director to give you all the assistance possible to help provide a safe environment for all employees and the general public. The Safety Director has full authority to implement our safety program, so please refer any questions or comments regarding the safety program to this person.

We will expect all employees to abide by the guidelines of the safety program and to cooperate with the Safety Director in all safety related matters.

Patrick Fink
President

Safety Committee

Safety committees can be invaluable to a safety program by providing the active participation and cooperation of many key people in the organization. They also can be unproductive and ineffective. The difference between success and failure lies with the original purpose of the committee, it's staffing and structure, and the support it receives while carrying out it's responsibilities.

A safety committee is a group that aids and advises both management and employees on matters of safety and health pertaining to company operations. In addition, it performs essential monitoring, educational, investigative, and evaluative tasks.

Safety Committee Program

Formation of a safety committee:

1. Members should represent daily work activities;
2. Both employee and employer representatives should be on the committee;
3. The committee may be chaired by one member, or co-chaired by more than one;
4. Membership on this committee should vary.

Duties of the safety committee:

1. Conduct regularly scheduled and documented safety committee meetings;
2. Actively participate in safety and health instruction programs;
3. Conduct hazard recognition inspections of the workplace on a regular basis;
4. Review and evaluate hazard recognition reports;
5. Review all accident investigation reports;
6. Review all employee reporting and communications reports;
7. Inform management of proposed safety and health recommendations and improvements;
8. Monitor and evaluate the effectiveness of safety and health recommendations and improvements;
9. Compile and distribute safety and health information to employees; and
10. Monitor Federal, state and local worker related laws and regulations.

Agenda of a safety committee meeting:

1. Review minutes of previous meeting;
2. Discuss any unfinished business from last meeting;
3. Report on actions taken by management as a result of previous suggestions;
4. Review accident investigation reports;
5. Review hazard recognition reports;
6. Review employee reporting and communication reports; and
7. Report suggestions on health and safety hazards to management.

Safety Committee Minutes

Date of Meeting: _____ Time Opened: _____ Time Closed: _____

Committee Members	Position	Present/Absent

Minutes of Meeting

Signed _____
Committee Chairman

**A copy of these minutes should be made available to all employees.

Responsibilities and Duties

Management

Responsibilities:

- Safety begins with management commitment and participation.
- We will set goals, establish accountability and become involved.
- A poor safety record is a management problem.
- Establish, implement and maintain the company safety program.

Duties:

- Communicate safety commitment and policy.
- Attend company safety functions.
- Review accident reports and safety activity.
- Make needed appropriations.
- Set a good example.

Safety Coordinator

Responsibilities:

- Someone must be responsible for the program.
- In some cases a safety committee will be used to schedule a block of time to devote to safety activity.

Duties:

- Develop written safety policies and procedures;
- Coordinate activities with safety committee;
- Inform management of proposed safety and health recommendations;
- Compile and distribute safety and health information to employees;
- Provide safety training for employees, supervisors, and managers;
- Arrange for training of new employees;
- Conduct routine workplace safety inspections;
- Complete and analyze accident investigation reports;
- Monitor and evaluate the effectiveness of safety and health programs;
- Assure compliance with government regulations; and
- Prepare progress reports on programs for management and safety committee.

Supervisors

Responsibilities:

- Supervisors have a direct responsibility for a working group.
- They will help build safety into the work process and be alert for safety and health problems.

Duties:

- Train new employees.
- Re-train present employees.
- Make department inspections.
- Prepare accident reports.
- Enforce safety rules.
- Make daily safety contacts.
- Correct unsafe acts and conditions.

Employees

Responsibilities:

- Workers must learn the hazards of their jobs and abide by safety rules.
- The program requires the wholehearted support of those it was designed to protect.

Duties:

- Abide by safety rules. Report hazardous conditions or concerns.
- Communicate safety to fellow employees.
- Make suggestions to help improve safety.

Accountability

In order for a Safety Program to be effective, there must be a means developed for holding employees accountable for their unsafe work habits or conditions.

If an accident occurs, and if it has been determined that the accident could have been avoided, the means of holding employees accountable should be made more severe after each consecutive offense.

Examples:

1. First Offense - Verbal warning
2. SE-Con Electric, Incd Offense - Verbal and written warning with a copy of the written warning becoming a part of the employee's file.
3. Third Offense - One day off work with no pay
4. Fourth Offense - Possible employment termination.
5. Serious offenses may result in immediate termination.

The purpose of holding employees accountable is to help employees conform to company policy and work safely. It is not designed to end employment and, therefore, employees should be given the opportunity to start over with a clean slate periodically.

Disciplinary Program

SAFETY POLICY STATEMENT

E-CON ELECTRIC, INC's safety policy is based on a firm conviction that safety is a by-product of doing things right. Strict observance of safety rules is necessary to prevent accidents. Lack of enforcement or repeated and flagrant violations of rules can only result in accidents, with accompanying injury and E-Con Electric, Incomic loss. Most accidents can be prevented, and safety is of great importance to both the Company and the employees. The Company will provide a healthy environment and a safe place of employment for all employees and will enforce all applicable regulations. An accident is defined as an unplanned event invariably preceded by an unsafe act(s) and/or unsafe condition(s) that frequently results in injury or damage and interrupts the completion of an activity. Accidents are an unnecessary waste of both our human and E-Con Electric, Incomic resources. The majority of accidents are due to unsafe acts and human failure.

You, the individual employee, are the first and last line of defense against injury and accidents.

Employees will work according to good safety practices as posted, instructed, and discussed by applicable regulations and memorandums. All employees will use Personal
Protective Equipment required to complete the job safely. Employees must report any unsafe situation or act to their supervisor immediately. Horseplay is not permitted nor will it be tolerated on the job. The Company will not tolerate or condone substance abuse on the job or employees reporting to work under the influence of intoxicants.

It is each employee's responsibility to comply with safety and health standards and all rules that are applicable to their own actions and conduct.

E-CON ELECTRIC, INC wants you to work in the safest manner possible. Remember, you are the first and last line of defense for Safety.

1. Positions responsible for enforcement of the disciplinary program.
    a) Each and every "Supervisor" with the Company is responsible for adequately monitoring their workforce to verify compliance with Company programs, and especially the Company Safety Program. Specifically, the Job Superintendent, Job-site foremen and Project Managers will verify compliance and initiate disciplinary action when warranted.
    b) The Director of Safety will make unannounced job site visits to verify compliance with safety programs. Any non-compliance observed will be immediately remedied, up to stopping the work in progress, and discussed with the on-site supervisor for immediate resolution and appropriate disciplinary actions.

2. Safety violations are defined as any employee not following verbal or written safety procedures, guidelines, rules, participating in horseplay, failing to wear proper PPE, or any other action or inaction the employee knew (or should have known) could contribute to an unsafe act or condition.

3. If a safety violation is observed or otherwise discovered by a Supervisor, they will immediately take action to make the work area safe for all employees. The Supervisor will then initiate appropriate action with the offending employee including documenting the Safety Violation and meeting with employee(s) to discuss the infraction & inform individual(s) of the rule or procedure that was violated and the corrective action to be taken. The Supervisor will discuss the infraction with his immediate supervisor and propose disciplinary action to be taken. Once agreed upon, the Supervisor will award such disciplinary actions to the employee.

4. All actions will be well documented in writing and forwarded to the Human Resource Manager. The **HRM** will inform the Director of Safety and forward a copy of all correspondence. The Director of Safety will then initiate an investigation to the appropriate level of detail, and take action to prevent repeat safety violations from occurring.

5. In addition to Safety Violations, violation of other Company policies and procedures may result in disciplinary actions being awarded. Grounds for immediate dismissal or disciplinary action shall include, but are not limited to, the following:
    a) Refusal to accept a reasonable assignment from an authorized supervisor or other insubordinate behavior.

b) Incompetence or negligence in performance of job duties.
c) Careless, negligent, or improper use of company equipment and computers.
d) Falsification, fraud, or omission of information when applying for a position.
e) Improper use of any type of leave.
f) Failure to maintain a satisfactory working relationship with the public or other employees.
g) Repeated absence without authorization from supervisor.
h) Possessing or using illegal drugs. (Refer to Section V (I) on Substance Abuse.)
i) Possessing or using intoxicants on company property, including all warehouse sites and maintenance shops, vehicles, or reporting to work under the influence of intoxicants. (Refer to Section V (I) on Substance Abuse.)
j) Refusing or adulterating any drug or alcohol test required by the Company.
k) Operating company vehicles, equipment, or other assets of the Company at any time while in possession, while using or consuming, or while under the influence of intoxicants.
l) Operating company vehicles while on a suspended or revoked driver's license.

It is impossible for E-CON ELECTRIC, INC to anticipate all types of conduct, which might warrant disciplinary action or dismissal. E-CON ELECTRIC, INC, at its sole and absolute discretion, shall determine whether any conduct by employees warrants disciplinary action up to and including dismissal. Nothing contained herein shall be construed as altering the "at will" employment relationship between the employee and E-CON ELECTRIC, INC.

Employee Warning Notice

Employee _____

Supervisor _____ Date _____

Previous Warnings **Oral** **Written** **Date** **By Whom**

1st Warning _____

2nd Warning _____

3rd Warning _____

Employer Statement

Date of incident ___/___/_____ Time _____

_____

_____

_____

_____

_____

_____

Employee Statement

I ___ agree ___ disagree with Employer's statement.
The reasons are: _____

_____

_____

_____

_____

_____

_____ ___/___/_____
Employee signature Date

Action to be taken:

_____ Warning _____ Probation _____ Suspension _____ Dismissal

Other: _____

Consequences should incident occur again: _____

_____

_____

_____

_____

I have read this warning and understand it.

_____ ___/___/_____ _____ ___/___/_____
Employee Signature Date Supervisor Signature Date

Acknowledgement

I,_____ (name) hereby acknowledge receipt of the

E-Con Electric Inc Safety Program.

Signed _____ Date _____

(This portion to be retained by employee)

Acknowledgement

I,_____ (name) hereby acknowledge receipt of the

E-Con Electric Inc Safety Program.

Signed _____ Date _____

(This portion to be retained by employer in employee personnel file)

II. Workplace Analysis

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Risk Tolerance

Although not always in mind, a business and work place operation can become vulnerable to a variety of adverse events. Risk is sometimes referred to as the uncertainty that goes along with adverse events. The level of risk can vary with each type of event. A risk manager needs to decide the level of risk that is tolerated and develop plans to treat those risks where the consequences might be a threat to the business operations.

Risk Assessment Worksheet
A management technique to evaluate the types of risk can be used to rank priorities according to the possibility of an adverse event and the expected consequences that might result if that event occurs. Priorities can be organized and plans developed to manage the greater threats with this approach.

Potential Adverse Event or Threat
Identify the common and special events or conditions that may potentially have an adverse affect on your operations. The non-all-inclusive list on the next page can be expanded with more details where you want to further define a risk.

Possibility
Industry insight and special knowledge about more than just your business is helpful. Identify how possible an adverse event or potential threat might be able to actually occur. Rank this on a scale of being low with a remote or no chance of happening, or medium, or high for an event that may likely occur.

Impact
Identify the potential consequences or severity that might occur if the event or threat would occur. Rank this on a scale of being low when a minor or insignificant consequence would result if the event occurs, medium, or high for an event that might have extremely damaging results that can not be tolerated.

Risk Priority
A risk might be more acceptable if it is not likely to happen, and if it ever did happen the impact to the business would be minor. Risks having a greater possibility of occurring and with a more severe impact will generally have a higher priority for developing risk management plans.

A priority can be determined based on the combination of both the possibility and impact of a risk. Assigning a number 1 (low), 2 (medium), or 3 (high) to these risk attributes can suggest where the higher priorities are for developing plans and managing the associated risk.

Sample Risk Assessment Worksheet

Determine the value using 1 (low), 2 (medium), or 3 (high) for the possibility and impact for each potential adverse event or threat. Adding the numbers horizontally placed in the “Possibility” and “Impact” columns will result in a “Risk Rank” to suggest a priority.

Potential Adverse Event or Threat	**Possibility (a)**	**Impact (b)**	**Risk Rank (a+b)**
Example- Vehicle accident- severe bodily injury	2	3	5
Employee safety and health			
Employee injury - amputation			
Employee injury - back			
Employee injury - eyes			
Employee injury - hands			
Employee injury – other acute injury			
Employee injury or illness – repetitive trauma			
Occupational illness or disease			
Employee death			
Liability			
Alleged negligence			
Customer injury			
Damage to property of others			
Employment related liability			
Environmental impairment			
Faulty product			
Faulty work			
Motor fleet			
Vehicle accident- bodily injury			
Vehicle accident- damage to other vehicle			
Vehicle accident- damage to your vehicle			
Vehicle theft			
Damage or loss of items in transit			
Property			
Fire			
Fire – electrical			
Fire – heating			
Fire – hazardous process			
Fire – arson			
Natural hazard - tornado			
Natural hazard - flood			
Natural hazard - earthquake			
Natural hazard – ice, snow			
Natural hazard - other			
Property damage - (e.g. from vandalism, vehicles, other)			
Equipment breakdown			
Burglary, robbery, theft			
Supply chain interruption			
Information security			

Example Risk Rank Priority: 1-3 (Low priority) 4 (Medium priority) 5-6 (High priority)

Hazard Recognition

This section provides guidance in the development of checklists for inspections done to help control identified hazards. The objective is to try eliminating the hazards from the work place or to develop methods to manage the risk.

In practical terms, a hazard is associated with a condition or activity that, if left uncontrolled, can result in an injury, an illness, or other adverse events. A survey of the work place should be done to identify the hazards or potential hazards which are easily recognized without intensive analysis.

The first step is usually a deliberate check around the inside, outside, and around the operations for hazards, or the potential for harm. Focus on the type of occupancy, operations, machines, processes and activities that are necessary to perform all aspects of the business. Make a note of your findings when a recognizable or potential hazard is found. Gather the information and consider the possibility of a critical error or mishap and what impact it could have. Establish priorities and develop plans for what is needed to control situations that might have unacceptable consequences.

Review the following to determine if there is a pattern of mishaps, and injury or illness where other safeguards may be needed.

- First aid log or reports
- Workers Compensation claim reports
- OSHA 300 Injury and Illness Log
- Company loss workday incident rate
- Insurance claims for property, liability, and other insured losses
- Public, customer, or employee complaint log or reports
- Vulnerability assessment results
- Process hazard analysis results
- Job hazard analysis reports

Special knowledge may be needed to evaluate how well your business has prepared for special programs that may be required for your operations. Hazards associated with chemicals could need further investigation to review what could go wrong and what safeguards must be implemented to prevent releases of hazardous chemicals stored or used in a process.

Emergency response operations often have special consideration for the safety of people, property, and sometimes the environment. You should determine the level of emergency response employees are intended to engage in, before the response is needed.

Develop rules and requirements to deal with the hazards. A checklist provided for employees to use helps to standardize the process. Employee training and safety meeting activity can also be developed along with the worksite inspections to help assure the recognized hazards are communicated.

Remember, the sample job site inspection forms provided in this section must be tailored to your specific operations. Your checklist should have clear objectives with specific expectations for each item. Involve the user in the development of the checklist to make sure it fits with the flow of work.

All Employees and/or sub-contractors are under direct supervision of E-Con Electric, Inc shall be actively involved in the hazard identification process.

Hazard prevention and control for identification process hazards shall be used as a daily, weekly, monthly & yearly.

All task hazards are classified and ranked based on severity. One (1) being the lowest hazard & ten (10) greatest hazard.

Employees are required to be trained in the hazard identification process. Written documentation is not a requirement.

Job Hazard Analysis

A more formal analysis may be needed for some jobs or tasks. A job hazard analysis, or sometimes called a job safety analysis, focuses on job tasks as a way to identify hazards before they occur. This approach focuses on the relationship between the worker, the task, the tools, and the work environment. The results of this type of analysis can be used to develop standard operating procedures.

First, select the job to analyze in the workplace. A job hazard analysis can be conducted on many jobs. Priority should go to the following types of jobs:

- Jobs with the highest injury or illness rates
- Jobs with the potential to cause severe or disabling injuries or illness, even if there is no history of previous accidents
- Jobs in which one simple human error could lead to a severe accident or injury
- Jobs that are new operations or have undergone changes in processes and procedures
- Jobs complex enough to require written instructions

A person with the technical knowledge related to the job being evaluated should be involved in looking at the worksite and its current condition. Breakdown the job and develop a description of the tasks and/or operations that will be performed. Then, identify the hazards associated along with the possible consequences for those tasks and operations. Hazards can include physical, chemical, biological, behavioral conditions. It is good to involve an employee in the job hazard analysis to provide realistic feedback and insight.

Ideally, the company will take steps to eliminate or reduce hazards to an acceptable risk level. Determine the type of controls used for protection from the hazards. Controls can include substitution or engineering the hazard out, administrative programs, and behaviors or practices when the hazard is present.

The physical capacity needed to do the job may also be identified and could be helpful in developing a job description used by a medical professional before making a determination for returning an injured employee back to work.

Sample Job Hazard Analysis Form

Job or Task Title: _____ Job or Task Location: _____

Completed By: _____ Date Evaluated: _____

	Task or step	Task Hazard & Rating	Hazard Control Method
1			
2			
3			
4			
5			
6			

An additional special program is required where personal protective equipment (e.g. protective eyewear, respirators, hearing protection) is used as a method to control hazards.

Workplace Inspection Form

1. **Safety Items**	Yes	No	Corrected
Are the employees under your supervision wearing:			
1. Safety glasses with side shields	☐	☐	☐
2. Eye protection for liquids or welding	☐	☐	☐
3. Steel-toed shoes	☐	☐	☐
4. Proper clothing for the job	☐	☐	☐
5. Face shields for grinders	☐	☐	☐
6. Sleeves and gloves as required	☐	☐	☐
7. Aprons and other protective clothing	☐	☐	☐
8. Proper head protection	☐	☐	☐
9. Other _____	☐	☐	☐

What corrections were required? _____

2. **Machines**			
Are all machines:			
1. Gears and flywheels properly guarded	☐	☐	☐
2. Two hand controls work	☐	☐	☐
3. Hand tools being used	☐	☐	☐
4. Point of operation guards in place	☐	☐	☐
5. Die blocks, interlocks in place	☐	☐	☐
6. Lockout procedure in place and used	☐	☐	☐
7. Electrical box covers secured and in place	☐	☐	☐
8. Maintenance schedules documented	☐	☐	☐
9. Other _____	☐	☐	☐

What corrections were required? _____

3. **Floors and Platforms**			
Are all:			
1. Walking surfaces clean and dry	☐	☐	☐
2. Working areas free from pallets, parts, debris	☐	☐	☐
3. Extension and electrical cords in good repair	☐	☐	☐
4. Metal shaving disposal	☐	☐	☐
5. Floor dry used on oil spills	☐	☐	☐
6. Hand rails in place	☐	☐	☐
7. Ladders in good condition	☐	☐	☐
8. Other _____	☐	☐	☐

What corrections were required? _____

4. **Miscellaneous**			
Are:			
1. Employees using proper lifting methods	☐	☐	☐
2. Employees asking for help lifting 100 lbs.	☐	☐	☐
3. Tools in good working condition	☐	☐	☐
4. Safety meetings held weekly	☐	☐	☐
5. Other _____	☐	☐	☐

What corrections were required? _____

5. Storage

Are:

1.	Materials or pallets straight and even	☐	☐	☐
2.	Stairs, fire escape doors and exits unobstructed	☐	☐	☐
3.	Sprinkler mains kept in the "on", open position	☐	☐	☐
4.	Fire hydrants visible & unobstructed	☐	☐	☐
5.	Fire extinguishers marked & inspected	☐	☐	☐
6.	Aisles free and clear of obstructions	☐	☐	☐
7.	Overhanging or protruding hazards	☐	☐	☐
8.	Electrical boxes unobstructed/kept clear	☐	☐	☐
9.	Other _____	☐	☐	☐

What corrections were required? _____

6. Illumination, Ventilation and Sanitation

Are:

1.	All areas sufficiently lighted	☐	☐	☐
2.	Does lighting reveal obstructions & hazards	☐	☐	☐
3.	Any burned out bulbs	☐	☐	☐
4.	Any sockets without bulbs	☐	☐	☐
5.	Paint booth ventilation (clean filters)	☐	☐	☐
6.	Exotic metals being used	☐	☐	☐
7.	Unsanitary conditions	☐	☐	☐
8.	Other _____	☐	☐	☐

What corrections were required? _____

7. Forklift Trucks and Drivers

Are:

1.	All forklift trucks in good repair	☐	☐	☐
2.	Drivers certified to operate forklifts	☐	☐	☐
3.	Warning device installed and operating	☐	☐	☐
4.	Drivers obeying all safety rules	☐	☐	☐
5.	Other _____	☐	☐	☐

What corrections were required? _____

Inspection Comments:

Signature _____ Date _____

Construction Site Inspection Form

Job Site _____ **Date** _____

	Yes	No	Corrected
List of emergency phone numbers posted	☐	☐	☐
First aid kit & instructions available	☐	☐	☐
Job personnel informed of accident procedure	☐	☐	☐
Someone on job trained in first aid	☐	☐	☐
OSHA posters posted	☐	☐	☐
Copy of company safety program on hand	☐	☐	☐
Housekeeping:	☐	☐	☐
Aisles and stairs clear of obstacles	☐	☐	☐
Aisles and stairs adequately lighted	☐	☐	☐
Work area generally clean	☐	☐	☐
Holes, pits, excavations etc. barricaded	☐	☐	☐
Proper toilet facility	☐	☐	☐
Toilet facilities clean	☐	☐	☐
Adequate and clean drinking facilities	☐	☐	☐
Materials stored safely	☐	☐	☐
Any overhead dangers	☐	☐	☐
Fire prevention equipment available	☐	☐	☐
Waste containers of adequate size & covered	☐	☐	☐
Electric equipment:	☐	☐	☐
Tools properly grounded	☐	☐	☐
Cords in good condition	☐	☐	☐
Plugs & receptacles in good condition	☐	☐	☐
Tools operating properly	☐	☐	☐
Ground fault interruption devices installed	☐	☐	☐
Chemicals stored safely	☐	☐	☐
MSDS available	☐	☐	☐
Mechanical equipment checked & in good working order	☐	☐	☐
Ladders checked and in good condition	☐	☐	☐
Scaffolding checked, in good condition, guarded	☐	☐	☐
Ropes and cables checked and in good condition	☐	☐	☐
Welding cables checked and in good condition	☐	☐	☐
Welding and burning hoses checked and in good condition	☐	☐	☐
Gas cylinders secured properly	☐	☐	☐
Rubbish disposed of properly	☐	☐	☐
Safety signs posted	☐	☐	☐
Hoists in good condition and load rated	☐	☐	☐
Safety equipment (glasses, hats, gloves, shoes, etc.)	☐	☐	☐
Are there hazards not under your control?	☐	☐	☐
Did you conduct a weekly safety meeting?	☐	☐	☐

Additional checks pertinent to your job:	Yes	No	Corrected
_____	☐	☐	☐
_____	☐	☐	☐
_____	☐	☐	☐
_____	☐	☐	☐
Have sub-contractors been trained on safety rules?	☐	☐	☐

Inspection Comments: _____

_____

_____

_____

_____

Signature

Construction Site Safety Checklist

Contractor: _____

Job-site Location: _____

Person in Charge: _____

Person(s) making the inspection: _____

Date: _____ Time: _____

	Adequate	Inadequate
1) Program Administration:		
a) OSHA and other job-site warning posters posted?	_____	_____
b) Safety meetings held on regular basis?	_____	_____
c) Job safety training, including first-aid training?	_____	_____
d) Emergency phone numbers posted?	_____	_____
e) Company Safety Program available?	_____	_____
f) MSDS Manual available?	_____	_____
2) Housekeeping and Sanitation:		
a) General neatness of working area?	_____	_____
b) Regular disposal of waste and trash?	_____	_____
c) Passageways and walkways clear?	_____	_____
d) Sanitary facilities adequate and clean?	_____	_____
3) Fire Prevention:		
a) Fire instructions to personnel?	_____	_____
b) Fire extinguishers identified, checked and lighted?	_____	_____
c) Hydrant clear; access to public thoroughfare open?	_____	_____
4) Electrical Installations:		
a) Adequate wiring; well insulated?	_____	_____
b) Fire hazards checked?	_____	_____
c) Electrical dangers posted?	_____	_____
d) Terminal boxes have required covers; covers are used?	_____	_____
e) Ground Fault Interruption devices installed?	_____	_____
5) Hand Tools:		
a) Proper tool being used for each job?	_____	_____
b) Neat storage; safe carrying?	_____	_____
c) Inspection and maintenance?	_____	_____
d) Damaged tools repaired or replaced promptly?	_____	_____
6) Power Tools:		
a) Tools and cords in good condition?	_____	_____
b) Proper grounding?	_____	_____
c) Proper instruction in use?	_____	_____
d) All mechanical safeguards in use?	_____	_____
7) Fall Protection:		
a) Ladders inspected for condition?	_____	_____
b) Scaffolding condition and guarding inspected?	_____	_____
c) Harnesses and lanyards inspected and used?	_____	_____
d) All floor openings properly guarded?	_____	_____

Notes:

Accident Investigation Policy

For E-Con Electric Inc

Accidents and incidents, in which employees are injured or narrowly escape injury, clearly expose hazards. Accident investigation analysis, to identify accident causes, permits development of measures to help prevent future injuries. An accident reporting form may be used to:

1) record the accident or near miss,
2) determine the accident cause, and
3) help plan for follow-up action in preventing repetitive accidents.

As part of this safety program, examples of accident reporting forms are be provided for such an investigation. Remember, these forms are just a guideline and should be tailored to your particular business operations.

Claims Reporting Policy

For E-Con Electric Inc

All accidents, especially those involving injuries, should be reported to the safety director, store manager, or other person responsible for reporting to your insurance carrier. Each provider of insurance coverage has differing standards for claim reporting and guidelines should be followed to ascertain promptness in reporting. Forms for each coverage should be included in this manual and should be labeled for each coverage provided. The claims department of your insurance carrier will provide sample forms for this purpose.

Property & Casualty Claims Office: _____

_____

Telephone: _____

Workers Compensation Claims: _____

_____

Telephone: _____

Supervisor's Report of Injury or Illness Form

Type of injury: _____ Disabling _____ Medical _____ Illness _____ Unclassified

Name of Employee _____ Department _____

Occupation _____ Years Experience _____

Place of Accident _____ Date _____

Time _____ Witnesses _____

Sent to Doctor _____ Given First Aid _____ Refused _____

---

1. Place of accident or exposure _____

2. What was employee doing when injured? _____

_____

3. How did accident occur? (Describe fully) _____

_____

_____

4. Part of body affected _____

5. Name of object or substance which directly injured employee _____

_____

6. What is being done to prevent similar accidents or injuries _____

_____

_____

Date _____ Signature of Supervisor _____

Cause:

Mark Basic Cause X

1. __Operating without authority
2. __Operating at unsafe speed
3. __Making safety devices inoperative
4. __Using unsafe equipment or equipment unsafely
5. __Unsafe loading, placing, mixing
6. __Taking unsafe position
7. __Working on moving or dangerous equipment
8. __Distraction, teasing, horseplay
9. __Failure to use personal protective device

Mark Contributing Cause If Any X

1. __Inadequately guarding
2. __Unguarded
3. __Defective tools or equipment
4. __Unsafe design/construction
5. __Hazardous conditions
6. __Unsafe illumination
7. __Unsafe ventilation
8. __Unsafe clothing
9. __Weather conditions

Why was the unsafe act committed? _____

_____

Why did the unsafe condition exist? _____

_____

Follow Up Action _____

_____

_____

Safety Director/Committee Member _____ Date _____

Customer Accident / Incident Reporting Policy

E-Con Electric Inc is implementing a customer Accident/Incident/Injury Reporting Policy, effective immediately. This policy is intended to standardize procedures associated with accidents, incidents, or injuries at our business. A benefit of this policy is continuous improvement in safety awareness at our business.

_____

E-Con Electric Inc

_____

Date

The following procedure guidelines will be followed whenever there is a customer accident, incident, or injury:

1. Immediately report any accident, incident, or injury to a supervisor or manager.
2. Determine extent of injuries and provide first aid, if possible. If the employee in the immediate area does not know what to do, find someone who does.
3. Call ambulance, or other emergency personnel, if condition warrants. Emergency numbers are posted near telephones.
4. Document all accidents, incidents, or injuries, now matter how small or insignificant they may seem to be.
   a. Provide a Customer Incident Report Form to the customer for completion and signature. If the customer will not complete and sign, have an employee complete the form as closely as possible and note that the customer would not sign.
   b. Determine if there are any witnesses to the accident, incident, or injury. Provide the witness a copy of the Report by Eyewitness Form for their completion and signature.
   c. The supervisor, or manager, will complete an investigation of the accident/incident/injury and complete the Manager/Supervisor Investigation of Customer Accident/Incident Form.
5. Photograph the area or hazard as soon as possible after the accident, incident, or injury has occurred. (A camera that will imprint date/time of photograph is preferable)
6. If video monitoring is used, review the videotape for a record of the accident, incident, or injury. Be careful to preserve the tape.

Customer Incident Report Form

Store/Dealership: _____ Date Incident Reported: _____

Date of Incident: _____ Time of Incident: _____

Where did the incident occur? _____

_____

Describe in detail how the incident occurred: _____

_____

_____

_____

_____

Describe any injuries: _____

Name of Person Involved: _____

Street Address: _____

City: _____ State: _____ Zip: _____

Daytime Phone: _____ Evening Phone: _____

Notifications (Ambulance, Emergency Rescue): _____

Other actions taken: _____

Comments: _____

_____

_____

_____

Witness name: _____

Street Address: _____

City: _____ State: _____ Zip: _____

Daytime Phone: _____ Evening Phone: _____

Person Completing Report: _____ Date: _____

Report by Eyewitness Form

Witness Name: _____

Street Address: _____

City: _____ State: _____ Zip: _____

Daytime Phone: _____ Evening Phone: _____

Date of Incident: _____ Time of Incident: _____

In your own words, please describe, in detail, what you saw happen:

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

Did anyone else see the incident? ☐ Yes ☐ No

If so, please list their names:

_____

Other Comments: _____

_____

_____

_____

_____ _____

Witness Signature Date

Manager / Supervisor Investigation of Customer Accident / Incident Form

Store/Dealership: _____ ☐ Customer ☐ Employee

Name of Injured Person: _____

Date of Incident: _____ Date Notified: _____ Time of Incident: _____

Type of Injury: _____ Part of Body: _____

Where did incident occur? _____

Specific activity engaged in when incident occurred: _____

Weather conditions: _____ Photo taken? ☐ Yes ☐ No

Was injured person interviewed? ☐ Yes ☐ No Was eyewitness interviewed? ☐ Yes ☐ No

Was first aid administered? ☐ Yes ☐ No Was injured person taken to hospital/clinic? ☐ Yes ☐ No

In your own words, describe what happened. Be as detailed as possible.

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

Explain how similar incidents could be prevented (training, communication, policies/procedures, inspections)

_____

_____

_____

Any action taken to prevent similar incidents? ☐ Yes ☐ No

_____ _____

Manager Signature Date and Time

Vehicle Accident Review Form

Section A (To be completed by driver)

Name _____ Date _____

Date, time and location of accident _____

_____

Weather conditions _____

_____

Description of accident _____

_____

_____

_____

Primary cause of accident _____

_____

_____

_____

How to prevent future accident. _____

_____

_____

Signed _____ Date _____

Section B (To be completed by driver's supervisor)

I have reviewed this accident with the driver involved and have the following comments:

_____

_____

_____

_____

Name _____ Date _____

Section C (Safety Committee Review)

The Committee has reviewed this accident and has found that it should be judged:

_____ Preventable _____ Non-Preventable

Consideration of the facts indicated the following action should be taken to prevent such an accident in the future:

_____

_____

_____

_____ Driver notified in writing _____ Driver notified verbally

Name _____ Position _____ Date _____

Employee Reporting and Communication System

It is important for employees to notify management of unsafe acts or conditions and to receive a timely and appropriate response to such communication. Such employee insight provides management a greater perspective of possible unsafe acts or conditions while actively involving employees in safety and health issues.

In a credible program, management should give a timely response to address any problems identified and a timely explanation of why particular actions were or were not taken. An example of an "employee reporting and communication" form can be provided to you as part of this safety program. You may tailor it to your particular needs.

Employee Reporting and Communication System Form

Unsafe Act or Condition

_____
_____
_____
_____

Location of Unsafe Act or Condition

_____
_____
_____
_____

Proposed Solution for Unsafe Act or Condition

_____
_____
_____
_____

Date Submitted _____

Signature (if desired) _____
(Action will be taken whether signed or not)

Safety Director/Committee Evaluation

_____
_____
_____
_____

Plan of Action

_____
_____
_____
_____

Date to be Completed _____ Date of Completion _____

Signature _____

III. Hazard Prevention and Control

[This page intentionally left blank]

General Safety Guidelines

For E-Con Electric Inc

1. Follow the established safe job procedures. You are to perform only those jobs you have been assigned and properly instructed to perform.
2. Wear the protective equipment required for your job as established by your supervisor through job instruction. It is your responsibility to see that protective equipment should be in good repair. Damaged equipment should be reported to your supervisor immediately.
3. Report unsafe acts or unsafe conditions to your supervisor without delay.
4. Report all accidents to your supervisor immediately whether anyone is hurt or not. In cases of injury, get first aid as soon as possible.
5. Keep all mechanical safeguards in position during operation.
6. Put main switch in "off" position whenever making adjustments, when setting up jobs or when machine is to remain idle for any length of time. Don't allow machinery to operate unattended.
7. Use only the machinery, equipment and tools you are qualified and authorized to use by the supervisor.
8. **Horseplay**, such as scuffling, practical jokes, or throwing articles at each other will not be tolerated.
9. No employee is permitted to make repairs on any electrical device or equipment unless authorized to do so. **Electrical equipment is not to be tampered with in any way.**
10. **Machine master switches are to be tagged or locked open when major repair, oiling and greasing or maintenance is being performed.**
11. The covers on **switch boxes and fuse stations are to be kept closed at all times.**
12. All employees are requested to **walk - not run while they are within** the work area.
13. No employee will be permitted to remove any guard installed over the point of operation, power transmission, or moving parts without permission from the supervisor and then only after proper safety procedures have been followed.
14. Compressed air should never be used for cleaning clothes, cooling or practical jokes. **Violation of this rule can result in serious injury or death.**
15. Fire extinguishers, sprinklers or fire exits are not to be blocked by supplies, stock or parts at any time.
16. No worker will be permitted to use flammable solvents in an open container. **Flammables must be stored and handled in approved safety containers.**
17. First aid will be administered only by the First Aid Department or specifically authorized personnel. Under no circumstances shall any employee attempt to remove foreign objects from the eyes or ears of a fellow employee.
18. Riding hand trucks and hitching rides on forklifts is prohibited.
19. The use of any tools, machinery or equipment for the personal use of any employee, whether on company time or shall not be permitted.
20. Only qualified maintenance persons authorized by supervision are permitted to repair machinery and equipment.
21. Safety equipment such as brushes, safety glasses, shields, safety shoes, etc., shall be used whenever the operation or job requires them.

Employees who violate these safety guidelines may be subject to disciplinary action.

Fleet Safety Guidelines

For E-Con Electric Inc

1. Anyone who operates a licensed vehicle owned or controlled by their company must maintain a current drivers license as required by Federal and/or State regulations.
2. Transportation of non-employee passengers is prohibited. Use of company vehicles by non-employees or unqualified employees is prohibited, unless permission has been given by an authorized official of the company.
3. All drivers are required to inspect their vehicle at the beginning of each work day. A vehicle check list will be provided to all drivers. Vehicles must be kept clean.
4. Obey all traffic laws. All fines are the responsibility of the driver. Traffic citations are to be reported to your supervisor in writing. Repeated violations are cause for disciplinary action, which may include suspension and/or dismissal.
5. Seat belts will be worn by all occupants, at all times.
6. Unattended vehicles shall have the keys removed, brakes set, windows rolled up and the doors locked.
7. Consumption of alcohol or non-prescribed drugs is grounds for immediate dismissal whether reporting for work or while on the job. If anyone is taking prescribed medication which may affect their ability to perform their duties safely, they must notify their supervisor when reporting to work.
8. All incidents involving damage to company property, property of others, personal injury of employee or to others must be reported to the safety director or supervisor immediately. Failure to report any accident involving a company vehicle is grounds for termination.
9. No radar equipment will be permitted in any company vehicle.
10. Courtesy should be extended to other motorists. The vehicle and you are a rolling billboard for your company.
11. All drivers should use good DEFENSIVE DRIVING TECHNIQUES while operating company vehicles.
12. Any employee that is in charge of a truck is also responsible for all tools and equipment assigned to that truck.
13. All vehicles should be equipped with an appropriate fire extinguisher and a first aid kit.

Employees who violate these safety guidelines may be subject to disciplinary action.

Environmental Health and Safety

LEAD EXPOSURE PROGRAM

This program applies to all construction work where an employee may be occupationally exposed to lead. The requirements and procedures of 29CFR191O.1025 & 29CFR 1926.62 will be followed.

1. Construction work is defined as work involving construction, alteration and/or repair, including but not limited to the following:
    a. Demolition or salvage of structures where lead or materials containing lead are present;
    b. Removal or encapsulation of materials containing lead;
    c. New construction, alteration, repair, or renovation of structures, substrates, or portions thereof, that contain lead, or materials containing lead;
    d. Installation of products containing lead;
    e. Lead contamination/emergency cleanup;
    f. Transportation, disposal, storage, or containment of lead or materials containing lead on the site or location at which construction activities are performed, and
    g. Maintenance operations associated with the construction activities described in this paragraph.

    "Competent person" means one who is capable of identifying existing and predictable lead hazards in the surroundings or working conditions and who has authorization to take prompt corrective measures to eliminate them.

2. Training
    a. E-CON ELECTRIC, INC shall communicate information concerning lead hazards according to the requirements of OSHA's Hazard Communication Standard for the construction industry, 29 CFR 1926.59, including but not limited to the requirements concerning warning signs and labels, material safety data sheets (MSDS), and employee information and training. In addition, employers shall comply with the following requirements:
        i. For all employees who are subject to exposure to lead at or above the action level on any day or who are subject to exposure to lead compounds which may cause skin or eye irritation (e.g. lead arsenate, lead azide), E-CON ELECTRIC, INC shall provide a training program and assure employee participation.
        ii. E-CON ELECTRIC, INC shall provide the training program as initial training prior to the time of job assignment
    b. E-CON ELECTRIC, INC shall also provide the training program at least annually for each employee who is subject to lead exposure at or above the action level on any day.
    c. E-CON ELECTRIC, INC shall assure that each employee is trained in the following:
        i. The content of this standard and its appendices;
        ii. The specific nature of the operations which could result in exposure to lead above the action level;
        iii. The purpose, proper selection, fitting, use, and limitations of respirators;
        iv. The purpose and a description of the medical surveillance program, and the medical removal protection program including information concerning the adverse health effects associated with excessive exposure to lead (with particular attention to the adverse reproductive effects on both males and females and hazards to the fetus and additional precautions for employees who are pregnant);
        v. The engineering controls and work practices associated with the employee's job assignment including training of employees to follow relevant good work practices described in Appendix B of this section;
        vi. The contents of any compliance plan in effect;
        vii. Instructions to employees that chelating agents should not routinely be used to remove lead from their bodies and should not be used at all except under the direction of a licensed physician; and
        viii. The employee's right of access to records under 29 CFR 19 10.20.
3. Access to information and training materials.
    a. E-CON ELECTRIC, INC shall make readily available to all affected employees a copy of this standard and its appendices.
    b. E-CON ELECTRIC, INC shall provide, upon request, all materials relating to the employee information and training program to affected employees and their designated representatives, and to the Assistant Secretary and the Director.

4. E-CON ELECTRIC, INC shall certify that employees have been trained by preparing a certification record that includes the identity of the person trained, the signature of the employer or the person who conducted the training, and the date the training was completed. The certification records shall be prepared at the completion of training and shall be maintained on file for one (1) year beyond the date of training of that employee.
5. Multi-employer workplace.
    a. In a multi-employer workplace, an employer who produces, uses, or stores lead in a manner that may expose employees of other employers to lead shall notify those employers of the potential hazard in accordance with paragraph (e) of the hazard communication standard for construction, 29 CFR 1926.59.
6. Permissible exposure limit.
    a. E-CON ELECTRIC, INC shall assure that no employee is exposed to lead at concentrations greater than fifty micrograms per cubic meter of air *(*50 ug/m(3)) averaged over an 8-hour period.
    b. If an employee is exposed to lead for more than 8 hours in any work day the employees' allowable exposure, as a time weighted average (TWA) for that day, shall be reduced according to the following formula:
        i. Allowable employee exposure (in ug/m(3)) = 400 divided by hours worked in the day.
    c. When respirators are used to limit employee exposure employee exposure may be considered to be at the level provided by the protection factor of the respirator for those periods the respirator is worn. Those periods may be averaged with exposure levels during periods when respirators are not worn to determine the employee's daily TWA exposure.
7. Exposure assessment.
    a. E-CON ELECTRIC, INC shall initially determine if any employee may be exposed to lead at or above the action level.
    b. E-CON ELECTRIC, INC has no facilities in which lead exposure exists. However, it does work on construction projects and in plants where it might. Prior to working on a project where the possibility exists of lead exposure, a written compliance program will be written for that specific job-site, and it shall include:
        i. A description of each operation in which lead exposure is possible; e.g., machinery used, material processed, controls in place, crew size, employee job responsibilities, operating procedures, and maintenance practices;
        ii. A description of the specific means that will be employed to achieve compliance, including engineering plans and studies used to determine methods selected for controlling exposure to lead, as well as, where necessary, the use of appropriate respiratory protection to achieve the PEL;
        iii. A report of the technology considered in meeting the PEL;
        iv. Air monitoring data that document the sources of lead emissions;
        v. A detailed schedule for implementation of the program, including documentation such as copies of purchase orders for equipment, construction contracts, etc.;
        vi. A work practice program that includes items required above.
        vii. This program shall be revised and updated at least every six months.
    c. Employee exposure is that exposure which would occur if the employee were not using a respirator.
    d. Full shift personal samples shall be representative of the monitored employee's regular, daily exposure to lead.
    e. Where monitoring is required, E-CON ELECTRIC, INC shall collect personal samples representative of a full shift including at least one sample for each job classification in each work area either for each shift or for the shift with the highest exposure level.
    f. Full shift personal samples shall be representative of the monitored employee's regular, daily exposure to lead.
    g. E-CON ELECTRIC, INC shall monitor employee exposures and shall base initial determinations on the employee exposure monitoring results and any of the following, relevant considerations:
        i. Any information, observations, or calculations which would indicate employee exposure to lead;
        ii. Any previous measurements of airborne lead; and
        iii. Any employee complaints of symptoms that may be attributable to exposure to lead.

h. Where E-CON ELECTRIC, INC has previously monitored for lead exposures, and the data were obtained within the past 12 months during work operations conducted under workplace conditions closely resembling the processes, type of material, control methods, work practices, and environmental conditions used and prevailing in the employer's current operations, the employer may rely on such earlier monitoring results to satisfy the requirements of this program.
i. Where E-CON ELECTRIC, INC has objective data, demonstrating that a particular product or material containing lead or a specific process, operation or activity involving lead cannot result in employee exposure to lead at or above the action level during processing, use, or handling, E-CON ELECTRIC, INC may rely upon such data instead of implementing initial monitoring.
j. E-CON ELECTRIC, INC shall establish and maintain an accurate record documenting the nature and relevancy of objective data where used in assessing employee exposure in lieu of exposure monitoring.
k. Where a determination shows the possibility of any employee exposure at or above the action level *E-CON ELECTRIC, INC* shall conduct monitoring which is representative of the exposure for each employee in the workplace who is exposed to lead.
l. Where E-CON ELECTRIC, INC has previously monitored for lead exposure, and the data were obtained within the past 12 months during work operations conducted under workplace conditions closely resembling the processes, type of material, control methods, work practices, and environmental conditions used and prevailing in the current operations, E-CON ELECTRIC, INC may rely on such earlier monitoring.
m. Where a determination is made that no employee is exposed to airborne concentrations of lead at or above the action level E-CON ELECTRIC, INC shall make a written record of such determination. The record shall include the name and social security number of each employee monitored.
n. If the initial determination or subsequent determination reveals employee exposure to be at or above the action level but at or below the PEL E-CON ELECTRIC, INC shall imitate engineering and work practice controls, institute PPE protection, and perform monitoring at least every 6 months. E-CON ELECTRIC, INC shall continue monitoring at the required frequency until at least two consecutive measurements, taken at least 7 days apart, are below the action level at which time monitoring may be discontinued.
o. If the initial determination reveals that employee exposure is above the PEL E-CON ELECTRIC, INC shall perform monitoring quarterly. E-CON ELECTRIC, INC shall continue monitoring until at least two consecutive measurements, taken at least 7 days apart, are at or below the PEL but at or above the action level at which time E-CON ELECTRIC, INC shall repeat monitoring for that employee at the frequency specified in paragraph (m) of this section. E-CON ELECTRIC, INC shall continue monitoring at the required frequency until at least two consecutive measurements, taken at least 7 days apart, are below the action level at which time monitoring may be discontinued.
p. If the initial determination reveals that employee exposure is above the PEL for more than 30 days per year action shall be taken to reduce exposure to or below the PEL. If engineering and work practice controls do not reduce exposure to acceptable limits, E-CON ELECTRIC, INC may elect to supplement with respirators. If such controls are not feasible, the reason must be documented.
q. Whenever there has been a change of equipment, process, control, personnel or a new task has been initiated that may result in additional employees being exposed to lead at or above the action level or may result in employees already exposed at or above the action level being exposed above the PEL, E-CON ELECTRIC, INC shall conduct additional monitoring in accordance with this section.

8. Employee notification
    a. E-CON ELECTRIC, INC must, as soon as possible but no later than 5 working days after the receipt of the results of any monitoring performed under this section, notify each affected employee of these results either individually in writing or by posting the results in an appropriate location that is accessible to employees.
    b. Whenever the results indicate that the representative employee exposure, without regard to respirators, is at or above the PEL E-CON ELECTRIC, INC shall include in the written notice a statement that the employees exposure was at or above that level and a description of the corrective action taken or to be taken to reduce exposure to below that level.

9. E-CON ELECTRIC, INC shall use a method of monitoring and analysis which has an accuracy (to a confidence level of 95 percent) of not less than plus or minus 25 percent for airborne concentrations of lead equal to or greater than 30 ug/m(3).
10. E-CON ELECTRIC, INC shall implement engineering and work practice controls, including administrative controls, to reduce and maintain employee exposure to lead to or below the permissible exposure limit to the extent that such controls are feasible. Wherever all feasible engineering and work practices controls that can be instituted are not sufficient to reduce employee exposure to or below the permissible exposure limit, E-CON ELECTRIC, INC shall nonetheless use them to reduce employee exposure to the lowest feasible level and shall supplement them by the use of respiratory protection.
11. Compliance program
    a. Prior to commencement of the job, E-CON ELECTRIC, INC shall establish and implement a written compliance.
    b. Written plans for these compliance programs shall include at least the following:
        i. A description of each activity in which lead is emitted; e.g. equipment used, material involved, controls in place, crew size, employee job responsibilities, operating procedures and maintenance practices;
        ii. A description of the specific means that will be employed to achieve compliance and, where engineering controls are required engineering plans and studies used to determine methods selected for controlling exposure to lead;
        iii. A report of the technology considered in meeting the PEL;
        iv. Air monitoring data which documents the source of lead emissions;
        v. A detailed schedule for implementation of the program, including documentation such as copies of purchase orders for equipment, construction contracts, etc.;
        vi. A work practice program.
        vii. An administrative control schedule, if applicable;
        viii. A description of arrangements made among contractors on multi-contractor sites with respect to informing affected employees of potential exposure to lead and with respect to responsibility for compliance with this section as set-forth in 1926.16.
        ix. Shall provide for frequent and regular inspections of job sites, materials, and equipment to be made by a competent person.
        x. Written programs shall be submitted upon request to any affected employee or authorized employee representatives, to the assistant Secretary and the Director, and shall be available at the worksite for examination and copying by the Assistant Secretary and the Director.
        xi. Written programs must be revised and updated at least semi-annually to reflect the current status of the program.
12. Mechanical ventilation
    a. When ventilation is used to control lead exposure, the E-CON ELECTRIC, INC evaluate the mechanical performance of the system in controlling exposure as necessary to maintain its effectiveness.
13. Administrative controls
    a. If administrative controls are used as a means of reducing employees TWA exposure to lead, E-CON ELECTRIC, INC shall establish and implement a job rotation schedule which includes:
        i. Name or identification number of each affected employee;
        ii. Duration and exposure levels at each job or work station where each affected employee is located; and
        iii. Any other information that may be useful in assessing the reliability of administrative controls to reduce exposure to lead.
14. Respirator protection.
    a. Employees who use respirators required by this program, E-CON ELECTRIC, INC must provide respirators per the E-CON ELECTRIC, INC Respiratory Protection Program that also comply with the requirements of this program. Respirators must be used during:
        i. Periods when an employee's exposure to lead exceeds the PEL.
        ii. Work operations for which engineering and work-practice controls are not sufficient to reduce employee exposures to or below the PEL.
        iii. Periods when an employee requests a respirator.
        iv. Periods when respirators are required to provide interim protection of employees.

v. An employee may choose to use a NIOSH-certified powered, air purifying respirator, at no cost to the employee, during the time period necessary to install or implement engineering or work practice controls.

15. Protective work clothing and equipment
    a. Where an employee is exposed to lead above the PEL without regard to the use of respirators, where employees are exposed to lead compounds which may cause skin or eye irritation (e.g. lead arsenate, lead azide), and as interim protection for employees performing tasks, E-CON ELECTRIC, INC shall provide at no cost to the employee and assure that the employee uses appropriate protective work clothing and equipment that prevents contamination of the employee and the employee's garments such as, but not limited to:
        i. Coveralls or similar full-body work clothing;
        ii. Gloves, hats, and shoes or disposable shoe coverlets; and
        iii. Face shields, vented goggles, or other appropriate protective equipment which complies with 1910.133 of this chapter.
    b. E-CON ELECTRIC, INC shall provide the protective clothing in a clean and dry condition at least weekly, and daily to employees whose exposure levels without regard to a respirator are over 200 ug/m(3) of lead as an 8-hour TWA.
    c. E-CON ELECTRIC, INC shall provide for the cleaning, laundering, and disposal of protective clothing and equipment
    d. E-CON ELECTRIC, INC shall repair or replace required protective clothing and equipment as needed to maintain their effectiveness.
    e. E-CON ELECTRIC, INC shall assure that all protective clothing is removed at the completion of a work shift only in change areas provided for that purpose.
    f. E-CON ELECTRIC, INC shall assure that contaminated protective clothing that is to be cleaned, laundered, or disposed of, is placed in a closed container in the change area that prevents dispersion of lead outside the container.
    g. E-CON ELECTRIC, INC shall inform in writing any person who cleans or launders protective clothing or equipment of the potentially harmful effects of exposure to lead.
    h. E-CON ELECTRIC, INC shall assure that the containers of contaminated protective clothing and equipment are labeled as follows:
    i. Caution: Clothing contaminated with lead. Do not remove dust by blowing or shaking. Dispose of lead contaminated wash water in accordance with applicable local, state, or federal regulations.
    j. E-CON ELECTRIC, INC shall prohibit the removal of lead from protective clothing or equipment by blowing, shaking, or any other means which disperses lead into the air.
16. Housekeeping
    a. All surfaces shall be maintained as free as practicable of accumulations of lead
    b. Clean up of floors and other surfaces where lead accumulates shall wherever possible, be cleaned by vacuuming or other methods that minimize the likelihood of lead becoming airborne.
    c. Shoveling, dry or wet sweeping, and brushing may be used only where vacuuming or other equally effective methods have been tried and found not to be effective.
    d. Where vacuuming methods are selected, the vacuums shall be equipped with HEPA filters and used and emptied in a manner that minimizes the reentry of lead into the workplace.
    e. Compressed air shall not be used to remove lead from any surface unless the compressed air is used in conjunction with a ventilation system designed to capture the airborne dust created by the compressed air.
17. Hygiene facilities and practices
    a. E-CON ELECTRIC, INC shall assure that in areas where employees are exposed to lead above the PEL without regard to the use of respirators, food or beverage is not present or consumed, tobacco products are not present or used, and cosmetics are not applied.
18. Change areas
    a. E-CON ELECTRIC, INC shall provide clean change areas for employees whose airborne exposure to lead is above the PEL, and as interim protection for employees, without regard to the use of respirators.
    b. E-CON ELECTRIC, INC shall assure that change areas are equipped with separate storage facilities for protective work clothing and equipment and for street clothes which prevent cross-contamination.
    c. E-CON ELECTRIC, INC shall assure that employees do not leave the workplace wearing any protective clothing or equipment that is required to be worn during the work shift.

19. Showers
    a. E-CON ELECTRIC, INC shall provide shower facilities, where feasible, for use by employees whose airborne exposure to lead is above the PEL.
    b. E-CON ELECTRIC, INC shall assure, where shower facilities are available, that employees shower at the end of the work shift and shall provide an adequate supply of cleansing agents and towels for use by affected employees.
20. Eating facilities
    a. E-CON ELECTRIC, INC shall provide lunchroom facilities or eating areas for employees whose airborne exposure to lead is above the PEL, without regard to the use of respirators.
    b. E-CON ELECTRIC, INC shall assure that lunchroom facilities or eating areas are as free as practicable from lead contamination and are readily accessible to employees.
    c. E-CON ELECTRIC, INC shall assure that employees whose airborne exposure to lead is above the PEL, without regard to the use of a respirator, wash their hands and face prior to eating, drinking, smoking or applying cosmetics.
    d. E-CON ELECTRIC, INC shall assure that employees do not enter lunchroom facilities or eating areas with protective work clothing or equipment unless surface lead dust has been removed by vacuuming, downdraft booth, or other cleaning method that limits dispersion of lead dust.
21. Hand Washing facilities
    a. E-CON ELECTRIC, INC shall provide adequate hand washing facilities for use by employees exposed to lead.
    b. Where showers are not provided E-CON ELECTRIC, INC shall assure that employees wash their hands and face at the end of the work-shift.
22. Medical surveillance
    a. E-CON ELECTRIC, INC will provide medical surveillance, when required, at no cost to the employees.
    b. E-CON ELECTRIC, INC shall make available initial medical surveillance to employees occupationally exposed on any day to lead at or above the action level. Initial medical surveillance consists of biological monitoring in the form of blood sampling and analyses for lead and zinc protoporphyrin levels.
    c. E-CON ELECTRIC, INC shall institute a medical surveillance program for all employees who are or may be exposed at or above the action level for more than 30 days in any consecutive 12 months;
    d. E-CON ELECTRIC, INC shall assure that all medical examinations and procedures are performed by or under the supervision of a licensed physician.
    e. E-CON ELECTRIC, INC shall make available the required medical surveillance including multiple physician review without cost to employees and at a reasonable time and place.
23. Biological monitoring
    a. E-CON ELECTRIC, INC shall make available biological monitoring in the form of blood sampling and analysis for lead and zinc protoporphyrin levels to each employee affected.
    b. The blood sampling and monitoring should be conducted every six months until two consecutive blood samples and analysis are acceptable.
    c. The sampling and monitoring should be performed at least monthly during a work removal period for any employee with elevated blood levels.
    d. Employees will be notified in writing within five days when blood lead levels are not acceptable.
    e. Employees retain medical removal protection benefits when temporarily removed from work for elevated lead blood levels.
24. Employee notification
    a. Within five working days after the receipt of biological monitoring results, E-CON ELECTRIC, INC shall notify each employee in writing of his or her blood lead level.
    b. E-CON ELECTRIC, INC shall notify each employee whose blood lead level exceeds 40 ug/dl that the standard requires temporary medical removal with Medical Removal Protection benefits when an employee's blood lead level exceeds the numerical criterion for medical removal.
25. Medical examinations and consultations
    a. E-CON ELECTRIC, INC shall make available medical examinations and consultations to each employee on the following schedule:
        i. For whom a blood sampling test conducted at any time during the preceding 12 months indicated a blood lead level at or above 40 ug/dl;

ii. As soon as possible, upon notification by an employee either that the employee has developed signs or symptoms commonly associated with lead intoxication, that the employee desires medical advice concerning the effects of current or past exposure to lead on the employee's ability to procreate a healthy child, that the employee is pregnant, or that the employee has demonstrated difficulty in breathing during a respirator fitting test or during use; and
iii. As medically appropriate for each employee either removed from exposure to lead due to a risk of sustaining material impairment to health, or otherwise limited pursuant to a final medical determination.
iv. The content of medical examinations shall be determined by an examining physician and, if requested by an employee, shall include pregnancy testing or laboratory evaluation of male fertility.

b. E-CON ELECTRIC, INC shall promptly notify an employee of the right to seek a E-Con Electric, Inc. medical opinion after each occasion that an initial physician conducts a medical examination or consultation pursuant to this section.
c. E-CON ELECTRIC, INC shall provide an initial physician conducting a medical examination or consultation under this section with the following information:
i. A copy of this regulation for lead including all Appendices;
ii. A description of the affected employee's duties as they relate to the employee's exposure;
iii. iii) The employee's exposure level or anticipated exposure level to lead and to any other toxic substance (if applicable);
iv. A description of any personal protective equipment used or to be used;
v. Prior blood lead determinations; and
vi. All prior written medical opinions concerning the employee in the employer's possession or control.
d. E-CON ELECTRIC, INC shall assure that any person whom they retains, employs, supervises or controls does not engage in prophylactic chelation of any employee at any time.

26. Medical removal protection
a. E-CON ELECTRIC, INC shall remove an employee from work having an exposure to lead at or above the action level on each occasion that a periodic and a follow-up blood sampling test conducted pursuant to this section indicate that the employee's blood lead level is at or above 50 ug/dl;
b. E-CON ELECTRIC, INC shall remove an employee from work having an exposure to lead at or above the action level on each occasion that a final medical determination results in a medical finding, determination, or opinion that the employee has a detected medical condition which places the employee at increased risk of material impairment to health from exposure to lead.

27. Signs
a. E-CON ELECTRIC, INC may use signs required by other statutes, regulations or ordinances in addition to, or in combination with, signs required by this paragraph.
b. E-CON ELECTRIC, INC shall assure that no statement appears on or near any sign required by this paragraph which contradicts or detracts from the meaning of the required sign.
c. E-CON ELECTRIC, INC shall post the following warning signs in each work area where an employee’s exposure to lead is above the PEL.

WARNING
LEAD WORK AREA
POISON
NO SMOKING OR EATING

d. E-CON ELECTRIC, INC shall assure that signs required by this paragraph are illuminated and cleaned as necessary so that the legend is readily visible.

28. Record keeping
a. E-CON ELECTRIC, INC shall establish and maintain an accurate record of all monitoring and other data used in conducting employee exposure assessments.
i. Exposure monitoring records shall include:
1. The date(s), number, duration, location and results of each of the samples taken if any, including a description of the sampling procedure used to determine representative employee exposure where applicable;
2. A description of the sampling and analytical methods used and evidence of their accuracy;

3. The type of respiratory protective devices worn, if any;
4. Name, social security number, and job classification of the employee monitored and of all other employees whose exposure the measurement is intended to represent; and
5. The environmental variables that could affect the measurement of employee exposure.

Asbestos Awareness & Safety Program
Applicable OSHA Standards: 29 CFR 1926.1101, 29 CFR 1910.1001

1. **PURPOSE**

a) The purpose of this policy is to comply with the OSHA standards, to make employees of E-Con Electric, Inc aware of asbestos, and to prevent exposure to asbestos in the workplace. This program does ***NOT*** provide the necessary or required training to personnel to perform asbestos work for which state and other regulatory licensing requirements apply.

2. **SCOPE**

a) This awareness program applies to all of worksites controlled by E-Con Electric, Inc where one of our employees, or a subcontract employee, may be occupationally exposed to asbestos.

3. **INTRODUCTION**

a) Throughout history, asbestos has provided a durable readily adaptable heat and fire retardant agent conforming readily to industrial and architectural design aesthetics. It has been utilized in the fabrication of construction materials, including pipe and boiler insulation, wallboard and transite siding, insulation board, roofing felt, spray on ceiling and wall applications, acoustical plaster and ceiling tiles, floor tiles, textile wall coverings and specialty cement.

b) In the late 1970s, however, numerous clinical studies clearly linked asbestos exposure with such diseases as lung and colon cancer, asbestosis and mesothelioma. As a result EPA and OSHA prescribed regulations in 1983 and again in 1986 specifying work practices and rules governing the handling and disposal of asbestos-containing material, restricting the use of asbestos products in new buildings and establishing minimum employee exposure levels.

c) This document is intended to give the user an awareness level of the rules and regulations of Asbestos Abatement processes and procedures.

4. **DEFINITIONS**

a) Adequately Wet: This means per 40 CFR 61, Subpart M, NESHAPs, sufficiently mixed or coated with water or an aqueous solution to prevent dust emissions. Further, as per the EPA 340/1-90-015, Definitions, adequately wet means sufficiently mix or penetrate with a liquid to prevent release of particulates. If visible emissions are observed coming from asbestos-containing material then that material has not been adequately wetted. However, the absence of visible emissions is not sufficient evidence of being wet.

b) Aggressive method: Removal or disturbance of building material by sanding, abrading, grinding or other method that breaks, crumbles or disintegrates intact ACM.

c) Amended water: This means water to which surfactant (wetting agent) has been added to increase the ability of the liquid to penetrate ACM.

d) Asbestos: Includes chrysotile, amosite, crocidolite, tremolite asbestos, anthophyllite asbestos, actinolite asbestos, and any of these minerals that has been chemically treated and/or altered. For purposes of this standard, "asbestos" includes PACM, as defined below.

e) Asbestos-containing material (ACM): Any material containing more than one percent asbestos.

f) Authorized Person: Any person authorized by the employer and required by work duties to be present in regulated areas.

g) Building/facility owner: Legal entity, including a lessee, which exercises control over management and record keeping functions relating to a building and/or facility in which activities covered by this standard take place.

h) Category I nonfriable ACM: asbestos-containing packings, gaskets, resilient floor coverings and associated mastics, and asphalt roofing products containing more than one percent asbestos.

i) Category II nonfriable ACM: any material, excluding Category I nonfriable ACM containing more than one percent asbestos that, when dry, cannot be crumbled, cannot be crushed, pulverized, or reduced to powder by hand pressure.

j) Certified Industrial Hygienist (CIH): One certified in the comprehensive practice of industrial hygiene by the American Board of Industrial Hygiene.

k) Class I asbestos work: Activities involving the removal of TSI (Thermal System Insulation) and surfacing ACM and PACM.

l) Class II asbestos work: Activities involving the removal of ACM which is not thermal system insulation or surfacing material. This includes, but is not limited to, the removal of asbestos-containing wallboard, floor tile and sheeting, roofing and siding shingles, and construction mastics.

m) Class III asbestos work: Repair and maintenance operations, where ACM, including thermal system insulation and surfacing material, is likely to be disturbed.

n) Class IV asbestos work: Maintenance and custodial activities during which employees contact ACM and PACM, and activities to clean up waste and debris containing ACM and PACM.

o) Clean room: Means an uncontaminated room having facilities for the storage of employees' street clothing and uncontaminated materials and equipment.

p) Closely resemble: Means that the major workplace conditions which have contributed to the levels of historic asbestos exposure, are no more protective than conditions of the current workplace.

q) Competent person: Means, in addition to the definition in 29CFR 1926.32 (f), one who is capable of identifying existing asbestos hazards in the workplace and selecting the appropriate control strategy for asbestos exposure; who has the authority to take prompt corrective measures to eliminate them, as specified in 29 CFR 1926.32(f): In addition, for Class I and Class II work who is specially trained in a training course which meet the criteria of EPA's Model Accreditation Plan (40 CFR 763) for project designer or supervisor, or its equivalent and, for Class II and Class IV work, who is trained in an operations and maintenance (O & M) course developed by EPA (40 CFR 763.92 (a)(2)).

r) Critical barrier: One or more layers of plastic sealed over all openings into a work area or any other similarly placed physical barrier sufficient to prevent airborne asbestos in a work area from migrating to an adjacent area.

s) E-Con Electric, Inctamination area: An enclosed area adjacent and connected to the regulated area and consisting of an equipment room, shower area, and clean room, which is used for the dE-Con Electric, Inctamination of workers, materials, and equipment that are contaminated with asbestos.

t) Demolition: The wrecking or taking out of any load-supporting structural member and any related razing, removing, or stripping of asbestos products.
u) Director: The Director, National Institute for Occupational Safety and Health, U.S. Department of Health and Human Services, or designee.

v) Disturbance: Means contact which releases fibers from ACM or PACM or debris containing ACM or PACM. This term includes activities that disrupt the matrix of ACM or PACM, render ACM or PACM friable, or generate visible debris. Disturbance includes cutting away small amounts of ACM and PACM, no greater than the amount which can be contained in one standard-sized glove bag or waste bag in order to access a building component. In no event shall the amount of ACM or PACM disturbed exceed that which can be contained in one glove bag or waste bag which shall not exceed 60 inches in length and width.

w) Employee exposure: Means that exposure to airborne asbestos that would occur if the employee were not using respiratory protective equipment.

x) Equipment room (change room): A contaminated room located within the
E-Con Electric, Inctamination area that is supplied with impermeable bags or containers for the disposal of contaminated protective clothing and equipment.

y) Fiber: A particulate form of asbestos, 5 micrometers or longer, with a length-to diameter ratio of at least 3 to 1.

z) Friable ACM: When dry, can be crumbled, pulverized, or reduced to powder by normal hand pressure.

aa) Glovebag: Means an impervious plastic bag-like enclosure affixed around an asbestos-containing material, with glove-like appendages through which material and tools may be handled.

bb) HEPA Filter: High-efficiency particulate air filter which is capable of trapping and retaining at least 99.97% of all mono dispersed particles of 0.3 micrometers in diameter or larger.

cc) Homogeneous area: An area of surfacing material or thermal system insulation that is uniform in color and texture.

dd) Industrial hygienist: A professional person qualified by education, training, and experience to anticipate, recognize, evaluate and develop controls for occupational health hazards.

ee) Intact: Means that the ACM has not crumbled, been pulverized or otherwise deteriorated so that it is no longer likely to be bound with its matrix.

ff) Modification for purposes of paragraph (g)(6)(ii): A changed or altered procedure, material or component of a control system, which replaces a procedure, material or component of a required system. Omitting a procedure or component, or reducing or diminishing the stringency or strength of a material or component of the control system is not a "modification" for purposes of paragraph (g)(6)(ii) of 29 CFR 1926.1101.

gg) Negative Initial Exposure Assessment: Means a demonstration by the employer, which complies with the criteria in this section, that employee exposure during an operation is expected to be consistently below the PELs.

hh) PACM: Means "presumed asbestos containing material".

ii) Presumed Asbestos Containing Material: Means thermal system insulation and surfacing material found in buildings constructed no later than 1980. The designation of a material as "PACM" may be rebutted pursuant to paragraph (k)(4) of this section.

jj) Project Designer: A person who has successfully completed the training requirements for an abatement project designer established by 40 U.S.C. §763.90(g).

kk) Regulated area: An area established by the employer to demarcate areas where Class I, II, and III asbestos work is conducted, and any adjoining area where debris and waste from such asbestos work accumulate; and a work area within which airborne concentrations of asbestos, exceed or there is a reasonable possibility they may exceed the permissible exposure limit. Requirements for regulated areas are set out in paragraph (e)(6) of 29CFR 1926.1101.

ll) Removal: All operations where ACM and/or PACM is taken out or stripped from structures or substrates, and includes demolition operations.

mm) Renovation: The modifying of any existing structure, or portion thereof.

nn) Repair: Overhauling, rebuilding, rE-Con Electric, Incstructing, or rE-Con Electric, Incditioning of structures or substrates, including encapsulation or other repair of ACM or PACM attached to structures or substrates.

oo) Surface Material: Material that is sprayed, troweled or otherwise applied to surfaces (such as acoustical plaster on ceilings and fireproofing materials on structural members, or other materials on surfaces or acoustical fireproofing, and other purposes).

pp) Surfacing ACM: Means surfacing material which contains more than 1% asbestos.

qq) Thermal system insulation(TSI): Means ACM applied to pipes, fittings, boilers, breeching, tanks, ducts or other structural components to prevent heat loss or gain.

rr) Thermal system insulation ACM: Is thermal system insulation which contains more than 1% asbestos.

5. **NOTIFICATIONS**
a) Before an asbestos abatement project begins, determination will be made of state, local agency and environmental regulatory notifications that are required for such work. Generally, such notifications include reporting of the date that an asbestos abatement project is going to start and when it is expected to be completed. There may be deadlines for submitting such notifications and mandatory requirements prior to and during the conduct of such work. Confirmation also will be made that the conduct of any such work complies with applicable state and other regulatory requirements for personnel licensing, certification, training and other specifications.
b) The responsibility for notification lies with the facility owner. This does not relieve the contractor of the responsibility to ensure it has been done.

c) There may be instances in which an emergency notification is allowed. Generally, regulatory agencies will not consider poor planning an emergency. Exposure situations or catastrophic incidents are more likely to be approved. Remember, what constitutes an emergency is subjective.

6. **QUALIFIED PERSONNEL AND LICENSING**
a) *Licensing.* Prior confirmation will be made of applicable state licensing and/or other regulatory requirements for an individual performing work as an asbestos contractor. There may be different or additional requirements for a competent person or workers if they are in an industrial facility.

b) *Competent Person.* Also known as an asbestos supervisor, this individual must complete a 40-hour course provided by an EPA accredited institution. Additionally, competent persons may be required by the state or applicable local regulatory authority to be licensed to perform such work.

c) *Trained Worker.* All asbestos workers must complete a 32-hour course provided by an EPA accredited institution. The state or applicable local regulatory authority may also require that these individuals be licensed to perform such work.

7. **EMPLOYEE INFORMATION & TRAINING**
a) The company shall institute a training program for all employees who are exposed to airborne concentrations of asbestos at or above the PEL and/or excursion limit and ensure their participation in the program.

b) Training shall be provided prior to or at the time of initial assignment and at least annually thereafter.

c) The training program shall be conducted in a manner which the employee is able to understand. The employer shall ensure that each employee is informed of the following:

i) The health effects associated with asbestos exposure;
ii) The relationship between smoking and exposure to asbestos producing lung cancer;
iii) The quantity, location, manner of use, release, and storage of asbestos, and the specific nature of operations which could result in exposure to asbestos;
iv) The engineering controls and work practices associated with the employee's job assignment;
v) The specific procedures implemented to protect employees from exposure to asbestos, such as appropriate work practices, emergency and clean-up procedures, and personal protective equipment to be used;
vi) The purpose, proper use, and limitations of respirators and protective clothing, if appropriate;
vii) The purpose and a description of the medical surveillance program required by paragraph (l) of this section;
viii) The content of this standard, including appendices.
ix) The names, addresses and phone numbers of public health organizations which provide information, materials, and/or conduct programs concerning smoking cessation.
x) The requirements for posting signs and affixing labels, and the meaning of the required legends for such signs and labels.

d) The company shall also provide, at no cost to employees who perform housekeeping operations in an area that contains ACM or PACM, an asbestos awareness training course. The course shall at a minimum contain the following elements:

i) health effects of asbestos,
ii) locations of ACM and PACM in the building/facility,

iii) recognition of ACM and PACM damage and deterioration,
iv) requirements in this standard relating to housekeeping, and
v) proper response to fiber release episodes, to all employees who perform

e) Each such employee shall be so trained at least once a year.

f) A written certificate of training shall be provided to each employee who successfully completes the training as specified in this program. Copies of the certificates of training shall be maintained as documentation.

8. **ACCESS TO INFORMATION AND TRAINING MATERIALS**

a) The company shall make a copy of this standard and its appendices readily available without cost to all affected employees.

b) The company shall provide, upon request, all materials relating to the employee information and training program to the Assistant Secretary and the training program to the Assistant Secretary and the Director.

c) The company shall inform all employees concerning the availability of self-help smoking cessation program material. Upon employee request, the employer shall distribute such material, consisting of NIH Publication No. 89-1647, or equivalent self-help material.

9. **PERMISSIBLE EXPOSURE LIMITS (PELs) & EXPOSURE MONITORING**

a) Time-weighted average limits (TWA). The company shall ensure that no employee is exposed to an airborne concentration of asbestos in excess of 0.1 fiber per cubic centimeter of air as an 8-hour time-weighted average (TWA) as determined by the method prescribed in Appendix A of 1910.1001, or by an equivalent method.

b) Excursion limit. The employer shall ensure that no employee is exposed to an airborne concentration of asbestos in excess of 1.0 fiber per cubic centimeter of air (1 f/cc) as averaged over a sampling period of 30 minutes as determined by accepted methods.

c) Exposure monitoring. Determinations of employee exposure shall be made from breathing zone air samples that are representative of the 8-hour TWA and 30-minute short-term exposures of each employee.

d) Representative 8-hour TWA employee exposures shall be determined on the basis of one or more samples representing full-shift exposures for each shift for each employee in each job classification in each work area.

e) Representative 30-minute short-term employee exposures shall be determined on the basis of one or more samples representing 30 minute exposures associated with operations that are most likely to produce exposures above the excursion limit for each shift for each job classification in each work area.

f) The company shall establish regulated areas wherever airborne concentrations of asbestos and/or PACM are in excess of the TWA and/or excursion limit.

10. **ENGINEERING CONTROLS & WORK PRACTICES**

a) The company shall institute engineering controls and work practices to reduce and maintain employee exposure to or below the TWA and/or excursion limit except to the extent that such controls are not feasible.

b) Wherever the feasible engineering controls and work practices that can be instituted are not sufficient to reduce employee exposure to or below the TWA and/or excursion limit, the employer shall use them to reduce employee exposure to the lowest levels achievable by these controls and shall supplement them by the use of respiratory protection that complies with the requirements of this program and the company's written *Respiratory Protection Program*.

c) For the following operations, wherever feasible engineering controls and work practices that can be instituted are not sufficient to reduce the employee exposure to or below the TWA and/or excursion limit, the company shall use them to reduce employee exposure to or below 0.5 fiber per cubic centimeter of air (as an 8-hour time-weighted average) or 1 fibers/cc for 30 minutes (short-term exposure) and shall supplement them by the use of any combination of respiratory protection, work practices and feasible

engineering controls that will reduce employee exposure to or below the TWA and to or below the excursion limit permissible: Coupling cutoff in primary asbestos cement pipe manufacturing; sanding in primary and E-Con Electric, Inc, and asbestos cement sheet manufacturing; grinding in primary and E-Con Electric, Inc. and friction product manufacturing; carding and spinning in dry textile processes; and grinding and sanding in primary plastics manufacturing.

d) Local exhaust ventilation and dust collection systems shall be designed, constructed, installed, and maintained in accordance with good practices such as those found in the American National Standard Fundamentals Governing the Design and Operation of Local Exhaust Systems, ANSI Z9.2-1979.

e) All hand-operated and power-operated tools which would produce or release fibers of asbestos, such as, but not limited to, saws, scorers, abrasive wheels, and drills, shall be provided with local exhaust ventilation systems which comply with paragraph (f)(1)(iv) of this section.

f) Regarding *wet methods*, insofar as practicable, asbestos shall be handled, mixed, applied, removed, cut, scored, or otherwise worked in a wet state sufficient to prevent the emission of airborne fibers so as to expose employees to levels in excess of the TWA and/or excursion limit, prescribed in paragraph (c) of this section, unless the usefulness of the product would be diminished thereby.

g) No asbestos cement, mortar, coating, grout, plaster, or similar material containing asbestos, shall be removed from bags, cartons, or other containers in which they are shipped, without being either wetted, or enclosed, or ventilated so as to prevent effectively the release of airborne fibers.

h) Compressed air shall not be used to remove asbestos or materials containing asbestos unless the compressed air is used in conjunction with a ventilation system which effectively captures the dust cloud created by the compressed air.

i) Sanding of asbestos-containing flooring material is prohibited.

11. **REQUIREMENT FOR WRITTEN PROGRAM**

a) During work and where the TWA and/or excursion limit for asbestos is exceeded, the company shall establish and implement a written program to reduce employee exposure to or below the TWA and to or below the excursion limit by means of engineering and work practice controls, and by the use of respiratory protection where required or permitted under this section.

b) The hazards of exposure to asbestos shall be communicated to employees who have such an exposure as part of their work. Asbestos exposure in general industry occurs in a wide variety of industrial and commercial settings. Employees who manufacture asbestos containing products may be exposed to asbestos fibers. Employees who repair and replace automotive brakes and clutches may be exposed to asbestos fibers.

c) In addition, employees engaged in housekeeping activities in industrial facilities with asbestos product manufacturing operations, and in public and commercial buildings with installed asbestos containing materials may be exposed to asbestos fibers. Most of these workers are covered by this general industry standard, with the exception of state or local governmental employees in non-state plan states.

d) Employees who perform housekeeping activities during and after construction activities are covered by the asbestos construction standard, 29 CFR 1926.1101, formerly 1926.58. However, housekeeping employees, regardless of industry designation, should know whether building components they maintain may expose them to asbestos. The same hazard communication provisions will protect employees who perform housekeeping operations in all three asbestos standards; general industry, construction, and shipyard employment.

e) As noted in the construction standard, building owners are often the only and/or best source of information concerning the presence of previously installed asbestos containing building materials. Therefore they, along with employers of potentially exposed employees, have specific information conveying and retention duties.

12. **USE OF RESPIRATORS**

a) For employees who use respirators required by this section, the employer must provide respirators that comply with the requirements of this paragraph and Respiratory Protection Program 354

located in this manual. Approved respirators shall be furnished at no cost to the employee.

b) Respirators must be used during:

i) Periods necessary to install or implement feasible engineering and work-practice controls.

ii) Work operations, such as maintenance and repair activities, for which engineering and work-practice controls are not feasible.

iii) Work operations for which feasible engineering and work- practice controls are not yet sufficient to reduce employee exposure to or below the TWA and/or excursion limit.

iv) Emergencies.

b) The company has established and implemented a written *Respiratory Protection Program* in accordance with 29 CFR 1910.134. Any use of respirators regarding asbestos work shall be done in compliance with the company's *Respiratory Protection Program* and OSHA requirements.

c) The company shall provide a tight-fitting, powered, air- purifying respirator instead of any negative-pressure respirator specified in Table 1 of 1910.1001(g)(3) when an employee chooses to use this type of respirator and the respirator provides adequate protection to the employee.

d) No employee must be assigned to tasks requiring the use of respirators if, based on their most recent medical examination, the examining physician determines that the employee will be unable to function normally using a respirator, or that the safety or health of the employee or other employees will be impaired by the use of a respirator. Such employees must be assigned to another job or given the opportunity to transfer to a different position, the duties of which they can perform. If such a transfer position is available, the position must be with the same employer, in the same geographical area, and with the same seniority, status, and rate of pay the employee had just prior to such transfer.

e) The company shall select and provide the appropriate respirator from Table 1 of 1910.1001(g)(3).

f) Employees wearing negative pressure respirators shall have either quantitative or qualitative fit tests. The qualitative fit tests may be used only for testing the fit of a half mask. The project supervisor shall have the responsibility for ensuring that this testing is performed in accordance with the company's written Respiratory Protection Program and OSHA requirements under 29 CFR 1910.134.

13. **REQUIREMENTS FOR PROTECTIVE WORK CLOTHING & EQUIPMENT**

a) If an employee is exposed to asbestos above the TWA and/or excursion limit, or where the possibility of eye irritation exists, the company shall provide at no cost to the employee, and ensure that the employee uses, appropriate protective work clothing and equipment such as, but not limited to:

i) Coveralls or similar full-body work clothing;

ii) Gloves, head coverings, and foot coverings; and

iii) Face shields, vented goggles, or other appropriate protective equipment which complies with 1910.133.

14. **SPECIFIC INFORMATION REGARDING PPE**

a) The company shall provide information to affected employees regarding the purpose, proper use, and limitations of respirators and protective clothing, if appropriate to the work. This shall include information about respirators, protective clothing, proper selection and use of protective clothing and equipment, and manufacturer's instructions for use of such clothing and/or equipment.

15. **MEDICAL SURVEILLANCE AND EXPOSURE MONITORING**

a) All personnel working with asbestos in class I, II, or III work and are exposed at or above the PEL for more than 30 days a year must have medical surveillance through annual physicals and their exposure levels must be monitored and documented. All documentation must be kept for 30 years. A licensed physician must perform or supervise the exam.

16. **ROUTE OF ENTRY**

a) Inhalation (breathing in) is the route of entry for asbestos fibers. Studies have shown that inhalation of asbestos fibers leads to increased risks of developing several diseases.

17. **ASSOCIATED DISEASES**

a) Asbestosis, lung cancer, and mesothelioma are the primary diseases caused by asbestos exposure. Others include but are not limited to pleural plaques, pleural effusion, pleural thickening, cancer of the gastrointestinal tract and kidney cancer.

18. **INTERACTION BETWEEN ASBESTOS AND SMOKING**

a) The relationship between smoking and asbestos exposure is called a synergistic effect since exposure to both greatly increase the risk of disease. Workers who smoke cigarettes and are exposed to asbestos are 50 to 90 times more likely to get lung cancer than nonsmoking, non-exposed workers.

19. **INSURANCE**

a) It is a requirement that insurance coverage includes a rider for asbestos for any contractor working with asbestos.

20. **EXPOSURE ASSESSMENT**

a) An exposure assessment is the decision making process that develops the execution of the job. The factors that are involved in making that decision are:

- Class of removal being performed:
  - o Class I - removal of thermal insulation systems for demolition or renovation.
  - o Class II - removal of non-friable asbestos such as floor tile or transite.
  - o Class III - O & M activities
  - o Class IV - Janitorial activities
- Operation or shut down of equipment
- Temperature of equipment
- Public building or industrial facility
- Indoors or outdoors
- Prior exposure data
- Criteria for negative exposure assessment:

b) All asbestos work must begin with type C respirators unless a negative exposure assessment can be produced. Negative exposure assessment can be produced in two ways:

- Objective data - the type of asbestos (non-friable such as transite) and the method of removal will not release fibers above the PEL.
- Historical data - you have completed a sufficient number of similar jobs, using personnel with similar work experience, under similar conditions without releasing fibers in excess of the PEL with respect to the protection factors of the respirators being used.

21. **PROHIBITED WORK PRACTICES**

a) The following work practices and engineering controls are prohibited for all asbestos related work or work that disturbs asbestos or presumed asbestos-containing materials, regardless of measured exposure levels of initial exposure assessment:

i) High-speed abrasive disc saws not equipped with point of contact ventilator or enclosure with HEPA filtered exhaust air

ii) Compressed air to remove asbestos or asbestos-containing materials, unless the compressed air is used with an enclosed ventilation system by sweeping, shoveling, or dry cleanup of dust and debris

iii) Employee rotation to reduce exposure

22. **ENGINEERING CONTROLS**

a) The purpose of any engineering control is to eliminate the hazard. In the case of asbestos abatement, the engineering controls should be designed to eliminate air-borne fibers.

b) Class I abatement requires as a minimum:

i) HVAC systems must be isolated with 6 mil double layer plastic or equivalent

ii) Impermeable drop cloths

iii) All objects within the regulated area must be covered or removed

iv) Ventilate regulated area through HEPA filtration

v) Negative pressure enclosures or negative pressure glovebags in conjunction with wet methods of removal or small walk-in enclosure

c) Class II abatement requires:

i) Critical barriers

ii) Impermeable drop cloths

iii) Do not cut, abrade, or break material unless infeasible

iv) Thoroughly wet material with amended water before and during removal

v) Remove the material intact, if possible
vi) Immediately bag or wrap removed material

d) Class III abatement requires:
i) Use wet methods and ventilation
ii) If drilling, cutting, abrading, sanding, chipping, breaking, or sawing must use impermeable drop cloths and enclosures or glove bag systems

e) Class IV abatement requirements:
i) Wet methods and HEPA vacuums to clean up debris
ii) Must wear respirator if inside a regulated area

f) Glovebags and mini-enclosures for piping and small equipment:
i) Negative pressure glove bags and mini-enclosures are an easy, E-Con Electric, Incomical way of abating small-bore piping and equipment.
ii) A HEPA Vacuum is utilized to create negative pressure inside the glove bag or mini-enclosure to ensure no fibers are released into the atmosphere.
iii) The main limitation for glove bags is on equipment that is in operation. If the surface temperature is too hot, it can melt the bags, or increase the temperature inside the bag to the point that it could burn the workers' hands. If the equipment is less than 150 degrees (temperature limitation set by OSHA) this should not be a problem.

23. **ENCLOSURES**

a) Large scale projects and equipment:
i) A Negative Pressure Enclosure is utilized when there is a large amount of removal done in a small area or when the equipment is large enough that glove bags or mini enclosures are not feasible. Negative pressure is achieved by negative air machines that pull as much as 1600 CFM. It is required to have a minimum of 4 air changes an hour inside the enclosure. The enclosure must be as air tight as possible to ensure negative pressure.
ii) Regulated area: A regulated area is defined by OSHA to be all areas where airborne concentrations of asbestos may be present. An asbestos barricade with asbestos warning signs must be placed around the regulated area. This area must be maintained regardless of monitor results. Access to this area shall be strictly controlled and limited to authorized personnel only. Entrance and exit registers must be maintained to monitor and control the number of personnel in the regulated area. Only personnel with documented training, medical clearance and proper personal protective equipment are allowed entry into the regulated area. All personnel must be E-Con Electric, Inc inspected upon exit from a regulated area, regardless of type and quantity of asbestos, method of removal or exposure levels.
iii) Wet method: All classes of removal require the asbestos material to be sprayed with amended water, using an airless sprayer throughout the duration of the removal process. Amended water is simply water with a surfactant additive that breaks down the surface tension of the water to make it absorb more readily. The disposal bags must be sealed and of sufficient water use must be evident.
iv) Lockdown: Once all gross removal is complete and all surfaces inside the glove bag or enclosure are clean, lockdown or encapsulates is sprayed over the entire inside of the enclosure or glove bag.

24. **EXPOSURE MONITORING**

a) Exposure monitoring comes in two forms -- *Area* and *Personnel*.
i) Area Monitoring: All monitoring must be done in an ethical fashion. The abatement contractor cannot do air monitoring. It is recommended monitoring be done by a third party. An accredited lab must read all samples. Area and personnel sampling are usually read by phase contrast microscopy. Final clearance samples must be read by transmission electron microscopy.
Area monitoring documents the exposure inside and /or outside of the containment, glove bag or mini-enclosure. This information can be used to forewarn you of possible difficulty with your engineering controls or removal methods for example. A higher than expected reading inside the enclosure could be caused by inadequately wetting the material before abating. A higher than expected reading outside the enclosure could be caused by a bad seal in the enclosure or a faulty negative air machine.

2) Regulated areas are identified by posting of signs meeting OSHA requirements.

Cadmium Exposure Program

This program applies to all occupational exposures to cadmium and cadmium compounds, in all forms, in all construction work where an employee may potentially be exposed to cadmium. The requirements and procedures of 29CFR 19 10. 1027 & 29CFR 1926.1127 will be followed.

1) Construction work is defined as work involving construction, alteration and/or repair, including but not limited to the following:

i) Wrecking, demolition or salvage of structures where cadmium or materials containing cadmium are present;
ii) Use of cadmium containing-paints and cutting, brazing, burning, grinding or welding on surfaces that were painted with cadmium-containing paints;
iii) Construction, alteration, repair, maintenance, or renovation of structures, substrates, or portions thereof, that contain cadmium, or materials containing cadmium;
iv) Cadmium welding; cutting and welding cadmium-plated steel; brazing or welding with cadmium alloys;
v) Installation of products containing cadmium;
vi) Electrical grounding with cadmium welding, or electrical work using cadmium-coated conduit;
vii) Maintaining or retrofitting cadmium-coated equipment;
viii) Cadmium contamination/emergency cleanup; and
ix) Transportation, disposal, storage, or containment of cadmium or materials containing cadmium on the site or location at which construction activities are performed.

2) Training

i) E-CON ELECTRIC, INC shall institute a training program for all employees who are potentially exposed to cadmium, assure employee participation in the program, and maintain a record of the contents of such program.
ii) Training shall be provided prior to or at the time of initial assignment to a job involving potential exposure to cadmium and at least annually thereafter.
iii) The employer shall make the training program understandable to the employee and shall assure that each employee is informed of the following:
iv) The health hazards associated with cadmium exposure, with special attention to the information incorporated in Appendix A to this section;

a. The quantity, location, manner of use, release, and storage of cadmium in the workplace and the specific nature of operations that could result in exposure to cadmium, especially exposures above the PEL;
b. The engineering controls and work practices associated with the employee's job assignment;
c. The measures employees can take to protect themselves from exposure to cadmium, including modification of such habits as smoking and personal hygiene, and specific procedures the employer has implemented to protect employees from exposure to cadmium such as appropriate work practices, emergency procedures, and the provision of personal protective equipment;
d. The purpose, proper selection, fitting, proper use, and limitations of respirators and protective clothing;
e. The purpose and a description of the medical surveillance program;
f. The employee's rights of access to records under 1926.33(g)(1) and (2).

v) E-CON ELECTRIC, INC shall certify that employees have been trained by preparing a certification record that includes the identity of the person trained, the signature of the employer or the person who conducted the training, and the date the training was completed. The certification records shall be prepared at the completion of training and shall be maintained on file for one (1) year beyond the date of training of that employee. Additional access to information and training program and materials.

a. The employer shall make a copy of this section and its appendices readily available to all affected employees and shall provide a copy without cost if requested.
b. Upon request, the employer shall provide to the Assistant Secretary or the Director all materials relating to the employee information and the training program.
c. Multi-employer workplace.

- In a multi-employer workplace, an employer who produces, uses, or stores cadmium in a manner that may expose employees of other employers to cadmium shall notify those employers of the potential hazard in accordance

with paragraph (e) of the hazard communication standard for construction, 29 CFR 1926.59. P

d. Permissible Exposure Limit (PEL).
    - The employer shall assure that no employee is exposed to an airborne concentration of cadmium in excess of five micrograms per cubic meter of air (5 ug/m(3» , calculated as an eight-hour time-weighted average exposure (TWA). When the PEL is exceeded, a compliance program must be implemented.
    - Prior to the performance of any construction work where employees may be potentially exposed to cadmium, E-CON ELECTRIC, INC shall establish the applicability of this program by determining whether cadmium is present in the workplace and whether there is the possibility that employee exposures will be at or above the action level. E-CON ELECTRIC, INC shall designate a competent person who shall make this determination. Investigation and material testing techniques shall be used, as appropriate, in the determination. Investigation shall include a review of relevant plans, past reports, material safety data sheets, and other available records, and consultations with the property owner and discussions with appropriate individuals and agencies.
    - Where cadmium has been determined to be present in the workplace, and it has been determined that there is a possibility the employee's exposure will be at or above the action level, the competent person shall identify employees potentially exposed to cadmium at or above the action level.
    - Determinations of employee exposure shall be made from breathing zone air samples that reflect the monitored employee's regular, daily 8-hour TWA exposure to cadmium.
    - Eight-hour TWA exposures shall be determined for each employee on the basis of one or more personal breathing-zone air samples reflecting full shift exposure on each shift, for each job classification, in each work area. Where several employees perform the same job tasks, in the same job classification, on the same shift, in the same work area, and the length, duration, and level of cadmium exposures are similar; an employer may sample a representative fraction of the employees instead of all employees in order to meet this requirement. In representative sampling, the employer shall sample the employee(s) expected to have the highest cadmium exposures.
    - Initial monitoring. E-CON ELECTRIC, INC shall conduct exposure monitoring as soon as practicable that is representative of the exposure for each employee in the workplace who is or may be exposed to cadmium at or above the action level.
    - In addition, if the employee periodically performs tasks that may expose the employee to a higher concentration of airborne cadmium, the employee shall be monitored while performing those tasks.
    - Where the PEL will be exceeded, E-CON ELECTRIC, INC shall implement engineering and work practice controls to reduce and maintain employee exposure to cadmium at or below the PEL, except to the extent that the employer can demonstrate that such controls are not feasible.

e. The requirement to implement engineering controls to achieve the PEL does not apply where the employer demonstrates the following:
    - The employee is only intermittently exposed; and
    - The employee is not exposed above the PEL on 30 or more days per year (12 consecutive months).

f. Wherever engineering and work practice controls are not sufficient to reduce employee exposure to or below the PEL, E-CON ELECTRIC, INC shall implement such controls to reduce exposures to the lowest levels achievable. E-CON ELECTRIC, INC shall supplement such controls with respiratory protection. E-CON ELECTRIC, INC shall not use employee rotation as a method of compliance.

vi) Specific operations.

a. Abrasive blasting. Abrasive blasting on cadmium or cadmium containing materials shall be conducted in a manner that will provide adequate protection.

b. Heating cadmium and cadmium-containing materials. Welding, cutting, and other forms of heating of cadmium or cadmium containing materials shall be conducted in accordance with the requirements of 29 CFR 1926.353 and 29 CFR 1926.354, where applicable.

c. Work procedures shall be developed and implemented to minimize employee exposure to cadmium when maintenance of ventilation systems and changing of filters is being conducted.

vii) Prohibitions

a. High speed abrasive disc saws and similar abrasive power equipment shall not be used for work on cadmium or cadmium-containing materials unless they are equipped with appropriate engineering controls to minimize emissions, if the exposure levels are above the PEL.
b. Materials containing cadmium shall not be applied by spray methods, if exposures are above the PEL, unless employees are protected with supplied-air respirators with full face piece, hood, helmet, suit, operated in positive pressure mode and measures are instituted to limit overspray and prevent contamination of adjacent areas.

viii) Mechanical Ventilation

a. When ventilation is used to control exposure, measurements that demonstrate the effectiveness of the system in controlling exposure, such as capture velocity, duct velocity, or static pressure shall be made as necessary to maintain its effectiveness.
b. Measurements of the system's effectiveness in controlling exposure shall be made as necessary within five working days of any change in production, process, or control that might result in a significant increase in employee exposure to cadmium.
c. Recirculation of air. If air from exhaust ventilation is recirculated into the workplace, the system shall have a high efficiency filter and be monitored to assure effectiveness.
d. Procedures shall be developed and implemented to minimize employee exposure to cadmium when maintenance of ventilation systems and changing of filters is being conducted.

3) Compliance program.

i) Where employee exposure to cadmium exceeds the PEL and E-CON ELECTRIC, INC is required to implement controls to comply with the PEL, prior to the commencement of the job E-CON ELECTRIC, INC shall establish and implement a written compliance program to reduce employee exposure to or below the PEL. To the extent that engineering and work practice controls cannot reduce exposures to or below the PEL, E-CON ELECTRIC, INC shall include in the written compliance program the use of appropriate respiratory protection to achieve compliance with the PEL.

ii) The written compliance programs shall be reviewed and updated at least yearly by a competent person, and as often and as promptly as necessary to reflect significant changes in the employer's compliance status or significant changes in the lowest air cadmium level that is technologically feasible.

iii) Written compliance programs shall be provided upon request for examination and copying to the Assistant Secretary, the Director, affected employees, and designated employee representatives.

iv) E-CON ELECTRIC, INC has no facilities in which Cadmium exists. However, it does work on construction projects, and in plants where it might. Prior to working on a project where the possibility exists of Cadmium release, a written compliance program will be written for that specific job-site, and it shall include:

a. A description of each operation in which cadmium is emitted; e.g., machinery used, material processed, controls in place, crew size, employee job responsibilities, operating procedures, and maintenance practices;
b. A description of the specific means that will be employed to achieve compliance, including engineering plans and studies used to determine methods selected for controlling exposure to cadmium, as well as, where necessary, the use of appropriate respiratory protection to achieve the PEL;
c. A report of the technology considered in meeting the PEL;
d. *Air* monitoring data that document the sources of cadmium emissions;
e. A detailed schedule for implementation of the program, including documentation such as copies of purchase orders for equipment, construction contracts, etc.;
f. A work practice program that includes items required above.

4) Respirator protection.

i) For employees who use respirators required by this program, E-CON ELECTRIC, INC must provide respirators per the E-CON ELECTRIC, INC Respiratory Protection Program that also comply with the requirements of this paragraph. Respirators must be used during:

a. Periods necessary to install or implement feasible engineering and work-practice controls when employee exposures exceed the PEL.
b. Maintenance and repair activities, and brief or intermittent work operations, for which employee exposures exceed the PEL and engineering and work-practice controls are not feasible or are not required.
c. Work operations in the regulated areas.
d. Work operations for which E-CON ELECTRIC, INC has implemented all feasible engineering and work-practice controls, and such controls are not sufficient to reduce employee exposures to or below the PEL.
e. Work operations for which an employee, who is exposed to cadmium at or above the action level, requests a respirator.

ii) Emergencies
a. Dealing with emergency situations involving substantial releases of airborne cadmium.
b. The operation releasing airborne cadmium will be halted if possible.
c. All employees will exit the affected area.
d. A Competent Person shall evaluate the situation, and detail specific work plans and protective equipment.
e. The plan shall be in writing, and shall include provisions for the use of appropriate respirators and personal protective equipment.
f. Employees not essential to correcting the emergency situation shall be restricted from the area and normal operations halted in that area until the emergency is abated.

5) Medical surveillance.
E-CON ELECTRIC, INC shall institute a medical surveillance program for all employees who are or may be exposed at or above the action level and all employees who perform the following tasks, operations or jobs: Electrical grounding with cadmium welding; cutting, brazing, burning, grinding or welding on surfaces that were painted with cadmium containing
paints; electrical work using cadmium-coated conduit; use of cadmium containing paints; cutting and welding cadmium-plated steel; brazing or welding with cadmium alloys;
fusing of reinforced steel by cadmium welding; maintaining or retrofitting cadmium-coated equipment; wrecking and demolition where cadmium is present.

A medical surveillance program will not be required if the employee: Is not currently exposed to airborne concentrations of cadmium at or above the action level on 30 or more days per year (twelve consecutive months); and is not currently exposed those tasks for 30 or more days per year (twelve consecutive months).

Previously exposed - E-CON ELECTRIC, INC shall also institute a medical surveillance program for all employees who might previously have been exposed to cadmium in tasks specified above, unless the employee did not work in those tasks with exposure to cadmium for an aggregated total of more than 12 months.

To determine an employee's fitness for using a respirator, E-CON ELECTRIC, INC shall provide the limited medical examination specified. E-CON ELECTRIC, INC shall assure that all medical examinations and procedures required by this section are performed by or under the supervision of a licensed physician, who has read and is familiar with 29CFRl926.1127. E-CON ELECTRIC, INC shall provide the medical surveillance required without cost to employees, and at a time and place that is reasonable and convenient to employees.

For employees covered by medical surveillance, the employer shall provide an initial medical examination. The examination shall be provided to those employees within 30 days after initial assignment to a job with exposure to cadmium or no later than 90 days after the effective date of this section, whichever date is later.

Hydrogen Sulfide (H_2S) Exposure Control

Written Program

Purpose

The purpose of this program is to reduce employee hydrogen sulfide (H2S) exposure to below the Permissible Exposure Limits by means of engineering and work practice controls at E-Con Electric, Inc. This program meets the requirements of OSHAStandard 29CFR 1910.1000 Table Z-2.

Definitions

Acceptable ceiling concentration: Airborne concentration that should not be exceeded at anytime during an 8-hour shift.

Acceptable maximum peak concentration: The maximum airborne concentration allowed over a short time period if there is no other measurable exposure over any 8-hour shift.

Container: Any barrel, bottle, can, cylinder, drum, reaction vessel, storage tank, or the like, but does not include piping systems.

Emergency: Any occurrence such as equipment failure, rupture of containers, or failure of control equipment that may or does result in an unexpected significant release of hydrogen sulfide.

Employee exposure: Exposure to airborne hydrogen sulfide that would occur if the employee were not using respiratory protective equipment.

*Permissible Exposure Limit (PEL):*the OHSA limit for exposure to airborne hazards.

For benzene the limits are 10 ppm TWA, 15 ppm STEL20 ppm acceptable ceiling and 50-ppm acceptable maximum peak above ceiling once for 10 min if no other exposure occurs.

Route of exposure: the route by which air contaminants enter the body. Exposure routes include inhalation, ingestion or skin absorption.

Short Term Exposure Limit (STEL): airborne concentration measured over any 15 minute time period.

Time-weighted Average (TWA): airborne concentration averaged over an 8-hour time period.

Safety & Health Program

Responsibilities

The *Program Administrator* will:

- Issue and implement this program and ensure that it meets applicable requirements
- Issue and implement the E-Con Electric, Inc. Confined Space Entry Program according to OSHA CFR 29 1910.146
- Provide Hazard Communication training for hydrogen sulfide
- Implement engineering and work practice controls to prevent exposure to hydrogen sulfide
- Provide appropriate personal protective equipment for exposed employees
- Maintain exposure monitoring records according to the recordkeeping section of this program

Managers and Supervisors will:

- Know and understand the hazards of hydrogen sulfide exposure
- Comply with the E-Con Electric, Inc. Confined Space Entry Program
- Comply with all engineering and work practice controls in place to prevent hydrogen
- sulfide exposure
- Ensure the availability and use of appropriate personal protective equipment for
- exposed employees

Employees will:

- Comply with all aspects of this hydrogen sulfide exposure control program
- Comply with the E-Con Electric, Inc. Confined Space Entry Program
- Attend scheduled Hazard Communication Training and Confined Space Entry
- training
- Use engineering and work practice controls in place to prevent hydrogen sulfide
- exposure
- Use personal protective equipment as necessary to prevent hydrogen sulfide exposure

Program Activities

Hazard Recognition

E-Con Electric, Inc. works to ensure that employees are not exposed to hydrogen sulfide above OSHA exposure limits at any time.

Hydrogen sulfide, or H2S, is a colorless, flammable gas that has a distinctive “rotten egg” odor. It is also referred to as dihydrogen sulfide, sulfur hydride, sewer gas and stink damp. The physical characteristics of Hydrogen sulfide gas are below:

Safety & Health Program

H2S Characteristic

Color Colorless
Odor “Rotten eggs” (detectable at 10ppb)
Toxicity Highly toxic
Flammability Flammable
Solubility 0.4%
Incompatibilities Strong oxidizers, strong nitricacid, metals
Hydrogen sulfide is produced naturally by decaying organic matter, released from liquid manure and natural gas, a byproduct of industrial processes including petroleum refining, mining, tanning, wood pulp processing, and used to produce elemental sulfur, sulfuric acid, heavy water for nuclear reactors. Hydrogen sulfide exposure could occur as a result of the following processes and or location:

- Drilling operations
- Recycling drilling mud
- Contact with water from crude wells
- Blowouts
- **Field Maintenance**
- Tank Gauging
- Routine maintenance at refining operations
- Confined Space Entry (refer to E-Con Electric, Inc. *Engineering* Confined Space Entry Program)

Exposure to hydrogen sulfide above published limits can result in adverse health effects including:

- Eye irritation
- Lung effects
- Central Nervous System effects on parts of the brain that control breathing
- Shock, convulsions and death at high exposures

Symptoms of hydrogen sulfide exposure include:

- Eye irritation
- Nose and throat irritation
- Headache, dizziness
- Nausea
- Cough, breathing difficulty

Hazard Evaluation

- Monitoring
- Monitoring for airborne concentrations of hydrogen sulfide at E-Con Electric, Inc.

Engineering work sites is conducted using a four-gas meter and accomplished using the procedures by detecting H2S by the use of fixed or portable monitors and will alarm at the appropriate permissible exposure limits of 20 PPM for 1910 or 10 PPM for 1926. Also detailed in the Confined Space Entry Program.

- Area four gas monitors will be set to alarm when airborne hydrogen sulfide concentrations exceed the OSHA STEL limit of 20ppm.

Hazard Control

- E-Con Electric, Inc. employees will not work in areas with airborne concentrations above OSHA Permissible Exposure Limits.
- When monitor alarms sound the employees must either evacuate the area or don the SCBA's or airline respirators.
- Employees must be aware of site specific contingency/emergency action plans.
- If circumstances require an exception to the above, NIOSH approved self contained breathing apparatus or air-supplied respirators will be used.
- In confined spaces, hydrogen sulfide hazards will be controlled in accordance with the E-Con Electric, Inc Confined Space Entry program. Controls include but are not limited to dilution ventilation, forced air ventilation and the use of NIOSH approved respiratory protection (SCBA and air supplied only).
- Other safety precautions include:
- Whenever the four-gas monitor alarms leave the area immediately to a fresh air area and do not reenter until conditions are proven safe or appropriate respiratory protection is donned.
- Upon commencing operations at a work site, obtain, know and understand the facility’s contingency plan.

Training

- *E-Con Electric, Inc.* employees will be trained in the hazards and safe control of hydrogen sulfide exposure using the training materials included in this program.
- Training is documented according to the recordkeeping section of this program as well as the recordkeeping sections of the Hazard Communication Program and

Confined Space Entry programs.

- *E-Con Electric, Inc.* employees will be trained for safe confined space entry according to the implemented Confined Space Entry Program.

Recordkeeping

- Training records included in this program are retained with and according to the requirements of the *E-Con Electric, Inc.* Hazard Communication Program.
- Confined Space Entry training records are kept according to the Confined Space Entry Program.
- Hydrogen sulfide monitoring results are documented and retained according to the *E-Con Electric, Inc.* Confined Space Entry Program.

Attachments
Hydrogen Sulfide specific training materials
Hydrogen Sulfide training slides

Safety & Health Program
E-Con Electric, Inc.
SAFETY MEETING SIGN-UP SHEET
E-Con Electric, Inc.
Date:_____ Location:_____
Guest:_____
Trainer's Name and Title:_____
Trainer Qualifications:_____
Length of Training:_____ Hours/Minutes Time:_____ AM/PM TO:_____ AM/PM
Purpose of Training (check one):
New Employee Orientation _____General Safety Meeting _____
Job Specific Safety Training Supervisors_____
New Chemical, Equipment, or Procedure Awards_____
Employees: _____(Number Attending Meeting)
TITLE:

H2S SPECIFIC TRAINING
* Presented as part of the Employee Right-to-Know Training Program
DISCUSSED: slide presentation for Hydrogen Sulfide

- **THE OCCURRENCE OF HYDROGEN SULFIDE**
- **PRODUCTION PROCESSES**
- **DECAY OF ORGANIC MATERIAL**
- **NATURAL GAS PRODUCTION**
- **PROPERTIES OF HYDROGEN SULFIDE**
- **EXPOSURE LIMITS**
- **PEL**
- **TLV**
- **ROUTES OF EXPOSURE**
- **INHALATION**
- **SKIN CONTACT**
- **EYE CONTACT**
- **HAZARDOUS EXPOSURES TO HYDROGEN SULFIDE**
- **HEALTH EFFECTS OF HYDROGEN SULFIDE EXPOSURE**
- **MONITORING H2S LEVELS**
- **CONTROLLING HYDROGEN SULFIDE EXPOSURES ROUTING CUSTOMER OFFICE, OTHER**

Signature of Safety Manager_____ Signature of Instructor_____

ATTENDANCE ROSTER

E-Con Electric, Inc.

Employee Name	Employee Signature	Social Security	Job Title

Safety Incentives and Awards

Maintaining interest in safety may often be accomplished with an effective incentive program. Incentives help by improving employee morale, promoting safety awareness, and improving employee receptivity of the Safety Program. If not developed and run properly, it is conceivable that these programs will have little or no effect, or even a negative effect on your overall Safety Program.

Well run safety incentive programs can be a helpful addition to your Safety Program. An incentive program should start small with allowance for growth. Once an incentive program has been implemented it should be continued until the objective is met.

A well run safety incentive program may involve several components:

1. The program must be in addition to, not a substitute for, an otherwise solid company Safety Program.

2. The program should have a specific focus addressing definite safety issues, not safety in general.

3. The program should not discourage the reporting of mishaps or injuries.

4. The program should be timely and provide a reward soon after the objective is met.

6. The program should be based on employee involvement in as many ways as possible.

7. Rewards should be sincere and have meaning to employees. Awards need not be monetary. Often times the use of plaques, emblems, insignias, or similar items can become status symbols if awarded properly.

8. Consider how promotional publicity could be used and launched before the program gets under way. Publicity can be internal or external. Internal publicity includes newsletters, banners, special signs, posters or other internal recognition, while external includes releases to local newspaper, radio and television stations.

Example Types of Incentives and/or Awards

1. A company could provide a gift/award to each employee after completing 30 - 60 - 90 days with no lost time accidents or safety violations. The reward can be chosen by management such as: flashlights, caps, jackets, etc.

2. Group awards such as a trophy or plaque, savings bonds, gift certificates, cash or dinners could be given following a pre-designated period of time.

3. Awards can be given randomly-on-the-spot to individuals as a planned drawing with limited prizes to a chosen few or to a group such as a department with everyone receiving an award.

4. Awards could be associated with suggestions that eliminate unsafe conditions and close-calls.

IV. Safety and Health Planning

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SAFETY POLICY STATEMENT

E-CON ELECTRIC, INC's safety policy is based on a firm conviction that safety is a by-product of doing things right. Strict observance of safety rules is necessary to prevent accidents. Lack of enforcement or repeated and flagrant violations of rules can only result in accidents, with accompanying injury and E-Con Electric, Incorruc loss. Most accidents can be prevented, and safety is of great importance to both the Company and the employees. The Company will provide a healthy environment and a safe place of employment for all employees and will enforce all applicable regulations.

An accident is defined as an unplanned event invariably preceded by an unsafe act(s) and/or unsafe condition(s) that frequently results in injury or damage and interrupts the completion of an activity. Accidents are an unnecessary waste of both our human and E-Con Electric, Incomic resources. The majority of accidents are due to unsafe acts and human failure.

You, the individual employee, are the first and last line of defense against injury and accidents.

Employees will work according to good safety practices as posted, instructed, and discussed by applicable regulations and memorandums. All employees will use Personal
Protective Equipment required to complete the job safely. Employees must report any unsafe situation or act to their supervisor immediately. Horseplay is not permitted nor will it be tolerated on the job. The Company will not tolerate or condone substance abuse on the job or employees reporting to work under the influence of intoxicants.

It is each employee's responsibility to comply with safety and health standards and all rules that are applicable to their own actions and conduct. CCI wants you to work in the safest manner possible. Remember, you are the first and last line of defense for Safety.

1. Positions responsible for enforcement of the disciplinary program.
    a. Each and every "Supervisor" with the Company is responsible for adequately monitoring their workforce to verify compliance with Company programs, and especially the Company Safety Program. Specifically, the Job Superintendent, Job-site foremen and Project Managers will verify compliance and initiate disciplinary action when warranted.
    b. The Director of Safety will make unannounced job site visits to verify compliance with safety programs. Any non-compliance observed will be immediately remedied, up to stopping the work in progress, and discussed with the on-site supervisor for immediate resolution and appropriate disciplinary actions.
2. Safety violations are defined as any employee not following verbal or written safety procedures, guidelines, rules, participating in horseplay, failing to wear proper PPE, or any other action or inaction the employee knew (or should have known) could contribute to an unsafe act or condition.
3. If a safety violation is observed or otherwise discovered by a Supervisor, they will immediately take action to make the work area safe for all employees. The Supervisor will then initiate appropriate action with the offending employee including documenting the Safety Violation and meeting with employee(s) to discuss the infraction & inform individual(s) of the rule or procedure that was violated and the corrective action to be taken. The Supervisor will discuss the infraction with his immediate supervisor and propose disciplinary action to be taken. Once agreed upon, the Supervisor will award such disciplinary actions to the employee.
4. All actions will be well documented in writing and forwarded to the Human Resource Manager. The HRM will inform the Director of Safety and forward a copy of all correspondence. The Director of Safety will then initiate an investigation to the appropriate level of detail, and take action to prevent repeat safety violations from occurring.
5. In addition to Safety Violations, violation of other Company policies and procedures may result in disciplinary actions being awarded. Grounds for immediate dismissal or disciplinary action shall include, but are not limited to, the following:
    a. Refusal to accept a reasonable assignment from an authorized supervisor or other insubordinate behavior.
    b. Incompetence or negligence in performance of job duties.
    c. Careless, negligent, or improper use of company equipment and computers.
    d. Falsification, fraud, or omission of information when applying for a position.
    e. Improper use of any type of leave.

f. Failure to maintain a satisfactory working relationship with the public or other employees.
g. Repeated absence without authorization from supervisor.
h. Possessing or using illegal drugs. (Refer to Section V (I) on Substance Abuse.)
i. Possessing or using intoxicants on company property, including all warehouse sites and maintenance shops, vehicles, or reporting to work under the influence of intoxicants. (Refer to Section V (I) on Substance Abuse.)
j. Refusing or adulterating any drug or alcohol test required by the Company.
k. Operating company vehicles, equipment, or other assets of the Company at any time while in possession, while using or consuming, or while under the influence of intoxicants.
l. Operating company vehicles while on a suspended or revoked driver's license.

It is impossible for E-CON ELECTRIC, INC to anticipate all types of conduct, which might warrant disciplinary action or dismissal. E-CON ELECTRIC, INC, at its sole and absolute discretion, shall determine whether any conduct by employees warrants disciplinary action up to and including dismissal. Nothing contained herein shall be construed as altering the "at will" employment relationship between the employee and E-CON ELECTRIC, INC.

Severe Weather Conditions & Other Workplace Hazards

Policy Statement

E-Con acknowledges Outdoor Hazards and Severe Weather conditions are part of everyday life in the Construction Industry. Performing construction activities with the possibility of these hazards or Conditions occurring must be considered a safety and health risk if performed without proper training and personal protection.

With this in mind CCI Systems, Inc. and E-Con Electrical Division management, supervision, and tradesmen will operate under the following guidelines:

- Non-critical work will not be performed when Heat Indexes, Threatening Weather and/or Other Workplace Hazards propose a concern for personal Health and Safety.
- Arial lifts and other like equipment will not be operated when winds exceed 25 mph.
- Project supervision will determine what if any critical work is available on days these extreme conditions are encountered.
- Caution will be most important in the following heat indexes:
    - Any value less than 80 is considered comfortable
    - Any value greater than 90 is considered extreme
    - Any value greater than 100 is considered hazardous
    - Any value greater than 110 is considered dangerous
- If work has to be performed under extreme heat, it will be done so with strict consideration of suggested guidelines including:
    - Permitting workers to drink water at liberty
    - Establishing provisions for a work/rest regimen so that exposure time to high temperatures and/or the work rate is decreased.
- Provisions for first aid to be administered immediately to employees displaying symptoms of heat related illness.
- Please see the attached Occupational Health & Safety Communication titled "Outdoor Hazards: They're Out to Get You!" for additional information. Outdoor Hazards: They're Out to Get You! -- Occupational Health & Safety Page 1 of7

OCCUPATIONAL HEALTH & SAFETY
Outdoor Hazards: They’re Out to Get You!
By Robert A. Ernst *May 01, 2003*

We all enjoy being outside when the weather is pleasant. And after a long winter, warming temperatures and sunny conditions lure our employees out of doors for work-related tasks, at-home yard work, or just for recreation. This creates some unique problems for those responsible for safeguarding the health and safety of workers.

Many occupations require employees to be outdoors for at least part of the time. OSHA requires that employees be trained to recognize and avoid all workplace hazards, including those that can occur outside. It also makes sense to train employees on how to avoid outdoor hazards off the job so they stay safe and healthy while away from work.
Most of us know that when we are outdoors, exposure to the mix of heat, humidity, and sun can lead to serious heat-related illnesses. But a number of other problems can occur from sunburns to insect bites and stings. They include:

- Natural or man-made terrain hazards on the job site,
- Dermatitis from poisonous plants,
- Severe weather conditions,
- Sunburn, heat stress, heat exhaustion, or heat stroke, and
- West Nile virus, Lyme disease, and other insect-borne diseases.

The Lay of the Land
The work site, as well as the layout of the area around it, can contribute to hazardous conditions when working on the grounds or just walking to a job site.

- Uneven surfaces, wet grass, and mud can make for dangerous travel, whether walking or driving.
- Take precautions when maneuvering vehicles over rough terrain .

- Holes in the ground can cause trips or falls. Make sure they are identified and marked, or filled in quickly.
- Certain terrain hazards can cause water to collect. Water can create a drowning hazard; according to OSHA, excavations must be inspected after every rainstorm.
- Hazards can also be found overhead. Remember to keep track of where any power lines might be when working or moving equipment.

Leaflets Three, Let it Be!
Poison ivy is the name commonly applied to several different species of the sumac family that include poison ivy, poison oak, and poison sumac. Each year, these plants cause almost two million cases of dermatitis. Knowing how' to identify these plants will help your employees avoid contact with them.

The folk wisdom "Leaflets three, let it be" is a good rule for employees assigned to work near any vegetation. All the plants mentioned except poison sumac have three-leaflet stems. The two side or lateral leaflets appear to be symmetrical and grow close to the stem, while the end leaflet is distinct and alone. When you see this configuration, watch out!

Poison sumac can have seven, nine, or more leaflets growing in symmetrical pairs close to the stem-except for the one at the end. The odd numbers of leaves, the symmetrical pairing, and the isolated end leaflet should allow employees to be able to identify poison sumac.

- Teach employees to identify these plants to avoid contact with them. Trousers tied at the leg, a long-sleeved shirt, and gauntlet-type gloves will help protect against direct contact.
- Touching contaminated clothing or breathing smoke from burning leaves can have the same effect as direct contact. Clothing and tools can remain contaminated for years. Take precautions to prevent indirect contamination.
- Barrier cream can help protect bare skin from contact. Use barrier cream every day before beginning work and again after washing your hands.

Severe Weather
Some areas of the country are more susceptible to certain types of severe weather than others. Train your employees on the types of severe weather that occur in your location.

Tether hazards include:

- Lightning and thunderstorms,
- Flooding and flash flooding,
- Strong winds, tornadoes, and hurricanes, and
- Snow, freezing rain, sleet, and hail.

Develop emergency action plans for all likely severe weather scenarios, and train workers how to respond to the various threats. Designate appropriate shelter sites, and monitor local weather warning systems. Demonstrate how weather alarms will be given, and hold drills so that employees may practice appropriate responses, ask questions, and generally prepare for emergencies.

Lightning
Lightning strikes happen throughout the year and can hurt or kill those hit, as well as cause damage to facilities and equipment. Lightning poses a danger even when several miles away. It can strike almost anywhere and any time, even from a cloudless sky, and up to 10 miles away from the source.

Tornadoes
Tornadoes can occur at any time of the year. However, they usually occur between the hours of 3 p.m. and 9 p.m. If a tornado threatens:

- Do not open v.-indows--opening the window does nothing to protect the building and may lead to injury due to broken glass.
- Go to pre-designated tomado shelter areas.
- If outside and unable to find shelter, lie down in a ditch, ravine, or culvert and cover your head with your arms. Watch for flash flooding.

Hurricanes
Hurricane "season" typically runs from June to November, but hurricanes can occur before and after the season. A hurricane watch means hurricane conditions are forecast for 24 to 36 hours. A hurricane warning means hurricane conditions are expected within 24 hours.

Sunburn and Heat Illnesses
While we might enjoy working outside in the sun, too much sun exposure can lead to sunburn and other skin problems. Sunburns can be harmful and, in certain cases, can result in a recordable injury.

Employers are required to protect employees against overexposure to the sun's radiation. With the potential for sunburn, a shirt would be considered personal protective equipment just the same as goggles, hard hats, or respirators. Employers can be cited for failure to enforce the use of personal protective equipment including shirts as protection against sunburn injuries.

Some recommendations OSHA has provided for protection from the sun include:

- Wear clothing that does not transmit visible light. If an employee can see his/her hand through the fabric, the garment offers little protection against sun exposure.
- Wear a wide-brim hat to protect the neck, ears, eyes, forehead, nose, and scalp. A hard hat with a 360-degree brim is effective.
- Use a sunscreen with a sun protection factor (SPF) of 15 or higher to block out at least 93 percent of the UV rays. Sunscreen should be applied at least 5 minutes before going outdoors and reapplied every two hours. OSHA states that sunscreen must be used in situations where it is the only effective means of protection.
- Wear sunglasses that block UV rays.
- Limit direct sun exposure and seek shade whenever possible.
- Employees become more vulnerable to heat-related injuries and illnesses with rising summer temperatures. Personal characteristics such as age, weight, fitness, and medical condition can affect an employee's ability to deal with excessive heat.

Heat rash
Also known as prickly heat, heat rash may occur in hot and humid environments where sweat is not easily removed from the surface of the skin by evaporation. Often, it occurs in areas where clothing presses or rubs against the skin. Heat rash is not just a nuisance, but also interferes with the body's ability to sweat, reducing the ability of the body to handle heat.

Heat cramps
Heat cramps are painful muscle spasms caused by heat, dehydration, poor conditioning, and the body's salt loss. Tired muscles--those used for performing the work--are usually the ones most susceptible to cramps.

Heat exhaustion
Heat exhaustion results from loss of fluid through sweating when a worker has failed to drink enough fluids. If heat exhaustion is not treated, the illness may advance to heat stroke. Symptoms include:

- Paleness
- Dizziness
- Weakness
- Muscle cramps
- Nausea
- Vomiting
- Headache
- Pale, clammy skin

Protect Yourself Against Sunlight
Heat stroke
Heat stroke is caused by the body's failure to regulate its core temperature. Sweating stops and the body can no longer rid itself of excess heat. Unless treated promptly, victims of heat stroke will die.

Symptoms include:

- Dry, pale skin (no sweating)
- Hot, red skin (looks like a sunburn)
- Mood changes (irritable or confused)
- Seizures
- Headaches
- Rapid pulse
- Unconsciousness

To prevent heat-related illnesses, train your employees on the following:

- Drink cool water in small amounts frequently--one cup every 20 minutes. Avoid alcohol, coffee, tea, and caffeinated soft drinks, which cause dehydration.
- Wear lightweight, light-colored, loose-fitting clothing and change clothing if it gets completely saturated. Use sunscreen and wear a hat when working outdoors.
- Use short, frequent work-rest cycles when it's bot. Alternate work and rest periods with longer rest periods in a cooler area, and schedule heavy work for cooler parts of the day.
- Realize that certain medical conditions, such as heart conditions and diabetes, and some medications can increase the risk of injury from heat exposure.
- Other steps employers can take to prevent heat-related illnesses include:
- Have good general ventilation, as well as spot cooling, in work areas of high heat production. Good air flow increases evaporation of sweat, which cools the skin.
- Monitor workplace temperature and humidity and be alert to early signs of beat-related illness. Allow employees to take a rest break: if they become extremely uncomfortable.
- Ensure first aid responders can recognize and treat the signs of heat stress, heat exhaustion, heat cramps, and other heat-related illnesses.
- Use common sense when determining fitness for work in hot environments. Lack of acclimatization, age, obesity, poor conditioning, pregnancy, inadequate rest, previous heat injuries, medical conditions and medications are some factors that increase susceptibility to heat stress.

Insects

Summer insects can be more than annoying; bites and stings can lead to serious illnesses. In addition to the pain and swelling from insect stings, in some people stings can cause life-threatening allergic reactions. Or victims may be infected with more serious diseases or bacteria.

Hornets and bees

Hornets, wasps, and yellow jackets can sting repeatedly. Bees sting onIy once but leave behind a barbed stinger and poison sac that keeps pumping venom. This must be removed as quickly as possible.

Watch sting victims for prominent swelling and tenderness in the area of the stings. Look for hives to develop or any problem breathing or swallowing. Seek medical attention for these problems or for stings occurring near the eyes, nose, or throat. Employees can avoid some insect-related problems by:

- Not wearing sweet-smelling perfumes, hairsprays, and deodorants.
- Not wearing brightly colored clothing or clothes with flowery patterns.
- Not eating in areas where there are bees or hornets, because they are naturally attracted to food odors.
- Not panicking if they find a hive or nest. Stop and back away slowly, unless they begin to sting--then run!

Lyme disease… just the facts

Lyme disease has quickly spread to nearly all parts of the country. Your state and local health department can confirm its presence in your area. The level of risk can vary from year to year, based upon environmental factors.

Lyme disease is caused by *Borrelia burgdorftri,* a bacterium carried by the nymph stage of the deer tick. Most people infected with Lyme disease develop a rash; however, 20 to 40 percent of those who have the disease do not develop the rash. Other symptoms may be non-specific and similar to flu symptoms (e.g., fever, lymph node swelling, neck stiffness, generalized fatigue, headaches, migrating joint aches, or muscle aches).

Antibiotics successfully treat most cases of Lyme disease. If left untreated, Lyme disease may result in symptoms that are severe, chronic, and disabling, such as arthritis, muscle pain, and heart disease, as well as brain and nerve disorders.

Decrease the probability of tick bites by:

- Avoiding tick habitat (brushy, overgrown, and woody areas), particularly in spring and early summer when young ticks feed.
- Removing leaves, tall grass, and brush from areas around work areas to decrease habitat.
- Applying tick-toxic chemicals to surrounding work areas in accordance with federal, state, and local regulations and community standards.

- Wearing light-colored, long-sleeved shirts, tucking pant legs into socks or boots.
- Wearing high boots or closed shoes covering the entire foot.
- Wearing a bat.
- Using appropriate insect repellents.
- Showering and washing clothes after exposure.
- After working in tick infested areas, do a careful body check for ticks, promptly remove them with tweezers, and cleanse the skin with antiseptic.

Encephalitis
Several forms of mosquito-borne encephalitis can be transmitted by infected mosquitoes. Outbreaks of Eastern equine, La Crosse, and St. Louis encephalitis have occurred at various times, and these diseases can be deadly. Encephalitis-carrying mosquitoes are most active at dusk and at night.

West Nile virus
Most West Nile virus infections cause either no symptoms or a mild, flu-like illness. Persons over age 50 are at higher risk of severe illness. For the most part, normally healthy people will not be affected, or if they do contract it, any symptoms will be mild. And the chances of contracting the virus through mosquito bites are very slim.

Protective actions include:
- When possible, schedule work to avoid having workers outdoors when mosquitoes are most active and biting--at dawn, dusk, and in the early evening.
- Eliminate as many sources of standing water as possible to reduce mosquito breeding areas. Turn over, cover, or remove tarps, buckets, barrels, and wheelbarrows that accumulate water.
- Wear long-sleeved shirts, long pants, and socks .
- Spray exposed skin with insect repellents. Use DEET (N-N-diethyl-3-methylbenzarnide or N,Ndiethylrnetatoluamide) at concentrations of35 percent or less.

If providing insect repellents or insecticides make sure that the employees read, understand, and follow the manufacturer's recommendations, as printed on the container label. Provide training on the most effective use, and explain how employees should handle personal hygiene and contaminated clothing after use. It is particularly important to provide more help to those employees without adequate reading skills, or who may not speak English.

Because mosquitoes breed in any puddle or water that stands for more than four days, workers at sites near ponds, irrigation ditches, or other stagnant water may be at increased risk of mosquito exposure.

Protect Yourself Against Sunlight
Skin cancers are rapidly increasing in the United States. Melanoma, the most serious skin cancer, accounts for more than 75 percent of skin cancer deaths. Sunlight is the main source of ultraviolet (UV) radiation known to damage the skin. In addition, SW1 exposure can cause cataracts and other eye problems. To protect yourself:
- Cover up. Wear clothing that protects as much of your skin as possible. Remember that very light, thin, or worn fabric may not offer much protection.
- Use sunscreen with an SPF of 15 or higher. An SPF 15 blocks 93 percent of the burning UV rays. Apply sunscreen liberally at least 15 minutes before going outside. Reapply every two hours, or more frequently if you sweat a lot.
- Wear a hat. A wide brim hat protects the neck, ears, eyes, forehead, nose, and scalp. A baseball cap provides some protection for the front and top of the head but not for the back of the neck or the ears, where skin cancers commonly develop.
- Wear sunglasses to protect your eyes. Sunglasses should block 99 to 100 percent of UV radiation. Check the label to make sure they do. Darker glasses do not necessarily provide protection. UV protection comes from an invisible chemical applied to the lenses, not from the color or darkness of the lenses.
- Limit direct sun exposure. The most intense UV rays occur during the high mid-day sun, between 10 a.m. and 4 p.m. Work in the shade whenever possible.

The most important warning sign for skin cancer is a spot on the skin that changes in size, shape, or color over a period of one month to two years. The most common skin cancers often appear as:
- A pale, wax-like, pearly nodule;
- A red scaly, sharply outlined patch; or

- A sore that does not heal.

Melanoma often starts as a small, mole-like growth. See a health care clinician if you find an unusual skin change. Skin cancers can almost always be cured when detected early.

Employee Education and Training

Education and training are the foundations of a Loss Control Program. If the hazards are not known, prevention can not be practiced. New employees must be trained. Continuing education is a fact of today's business world. Safety is no exception. Training is one of the main cornerstones of any Safety Program.

The primary purpose of safety training is to help employees learn how to work safely and to reduce mishaps while performing their specific function.

Safety training is recommended:

1. For all new employees,
2. When new equipment, procedures, or processes have been introduced, and
3. When employee safety performances needs improved.

Instructions should be given to all employees. An overall safety and accident prevention program, including group and individual training, should also be included for specific employee work assignments. When appropriate and possible, allow employees to engage in hands on training. While lecture and discussion formats are fine, employees may not understand the procedures until they actually perform the tasks with someone there to assist them.

Subjects to consider for training:

- Company Safety Rules/Policy
- Job Orientation
- Hazard Communication
- Emergency Response
- Fleet and Transportation Safety
- Unique Operations or Activities
- Specific Employee Work Assignments
- Waste Management

An "employee safety orientation checklist" can be provided to you as part of this safety program. Use it as a guideline to develop your own training checklist.

OSHA's seven step voluntary training guidelines are a good place to start when setting up a training program. This allows for an organized approach by following proven techniques.

Step 1 - Determining if training is needed
Step 2 - Identifying training needs
Step 3 - Identifying goals and objectives
Step 4 - Developing learning activities
Step 5 - Conducting program effectiveness
Step 6 - Evaluating program effectiveness
Step 7 - Improving the program

The OSHA 10-Hour and 30-Hour General Industry course helps to provide a certain level of safety training, and is widely known as a standard for OSHA orientation training. This training may be used to learn more about the occupational safety and health standards applied to workplace decisions.

The length and complexity of industry standards make it difficult to evaluate where training may be needed. As an aid, the general industry OSHA training-related requirements are listed on the next page. Additional standards may be included for other industries, such as construction. The requirements for posting information, warning signs, and labels are excluded, as are most references to the qualifications of people assigned to test workplace conditions or equipment.

General Industry

The following list includes the general industry standards that specifically indicate required training.

General Industry 29 CFR Part 1910

Subpart E
- Means of Egress
- Employee Emergency Plans and Fire Prevention Plans

Subpart F
- Powered Platforms, Manlifts, and Vehicle-Mounted Work Platforms
- Powered Platforms for Building Maintenance - Operations - Training
- Care and use Appendix C, Section 1

Subpart G
- Occupational Health and Environmental Control
- Dip Tanks - Personal Protection
- Inspection, Maintenance, and Installation
- Hearing Protection
- Training Program

Subpart H
- Hazardous Materials
- Flammable and Combustible Liquids
- Explosives and Blasting Agents
- Bulk Delivery and Mixing Vehicles
- Storage and Handling of Liquefied Petroleum Gases
- Process Safety Management of Highly Hazardous Chemicals
- Contract Employer Responsibilities
- Mechanical Integrity
- Hazardous Waste Operations and Emergency Response
- Hazardous Waste Cleanup Workers
- New Technology Programs
- Hazardous Waste - Emergency Responders

Subpart I
- Personal Protective Equipment
- Respiratory Protection
- Respiratory Protection for M Tuberculosis

Subpart J
- General Environmental Controls
- Temporary Labor Camps
- Specifications for Accident Prevention Signs and Tags
- Permit Required Confined Spaces
- The Control of Hazardous Energy (Lockout/Tagout)
- Lockout or Tagout Devices Removed
- Outside Personnel

Subpart K
- Medical Services and First Aid

Subpart L
- Fire Protection
- Fire Brigades
- Training and Education
- Portable Fire Extinguishers
- Fixed Extinguishing Systems
- Fire Detection Systems
- Employee Alarm Systems

Subpart N
- Materials Handling and Storage
- Servicing of Multi-Piece and Single-Piece Rim Wheels
- Powered Industrial Trucks
- Moving the Load
- Crawler Locomotives and Truck Cranes

Subpart O
- Machinery and Machine Guarding
- Mechanical Power Presses
- Mechanical Power Presses - Instructions to Operators
- Training of Maintenance Personnel
- Operator Training
- Forging Machines

Subpart Q
- Welding, Cutting, and Brazing
- General Requirements
- Oxygen - Fuel Gas Welding and Cutting
- Arc Welding and Cutting
- Resistance Welding

Subpart R
- Special Industries
- Pulp, Paper, and Paperboard Mills
- Laundry Machinery and Operating Rules
- Sawmills
- Logging
- Telecommunications
- Derrick Trucks
- Cable Fault Locating
- Guarding Manholes
- Joint Power and Telecommunication Manholes
- Tree Trimming - Electrical Hazards
- Electric Power Generation, Transmission, and Distribution
- Grain Handling Facilities
- Entry Into Bins, Silos, and Tanks
- Contractors

Subpart S
- Electrical Safety-Related Work Practices
- Content of Training

Subpart T
- Commercial Diving Operations

Subpart Z
- Toxic and Hazardous Substances

Asbestos
4-Nitrobiphenyl
Alpha-Naphthylamine
Methyl Chloromethyl Ether
3, 3'-Dichlorobenzidine (and its salts)
Bis-Chloromethyl Ether
Beta-Napthylamine
Benzidine
4-Aminodiphenyl
Ethyleneimine
Beta-Propiolactone
2-Acetylaminofluorene
4-Dimethylaminoazobenzene
N-Nitrosodimethylamine
Vinyl Chloride
Inorganic Arsenic
Lead
Cadmium
Benzene
Coke Oven Emissions
Bloodborne Pathogens
Cotton Dust
1,2-Dibromo-3-Chloropropane
Acrylonitrile (Vinyl Cyanide)
Ethylene Oxide
Formaldehyde
4, 4' Methylenedianiline
Ionizing Radiation Testing
Hazard Communication
Occupational Exposure to Hazardous Chemicals in Laboratories

Construction Industry Employee Training

Construction Safety Training and Education

Construction industry companies should instruct each employee in the recognition and avoidance of unsafe conditions and the regulations applicable to their work environment to control or eliminate any hazards or other exposure to illness or injury. Employees that need to handle or use poisons, caustics, and other potentially harmful or dangerous substances should be provided instructions in the safe handling and use, and be made aware of the potential hazards, personal hygiene, and personal protective measures required. Where harmful plants or animals are present, employees who may be exposed should be instructed about the potential hazards and how to avoid injury, and the first-aid procedures.

All employees that are required to enter into a hazardous confined or enclosed space should be informed as to the nature of the hazards involved, the necessary precautions to be taken, and in the use of protective and emergency equipment that may be required. A "confined or enclosed space" means any space having a limited means of egress, which is subject to the accumulation of toxic or flammable contaminants or has an oxygen deficient atmosphere. Confined or enclosed spaces include, but are not limited to, storage tanks, process vessels, bins, boilers, ventilation or exhaust ducts, sewers, underground utility vaults, tunnels, pipelines, and open top spaces more than 4 feet in depth such as pits, tubs, vaults, and vessels.

Competent Person

The general safety and health provisions for a construction safety program provides for inspections of the job sites, materials, and equipment to be made by competent persons. A competent person is one designated by the employer and capable of identifying existing and predictable hazards in the surroundings or working conditions which are unsanitary, hazardous, or dangerous to employees, and who have authorization to take prompt corrective measures to eliminate them.

OSHA 10-Hour and 30-Hour Construction Course

By training and/or experience, a competent person is knowledgeable of the applicable standards, The OSHA 10-Hour and 30-Hour Construction course helps to provide a certain level of safety training, and is widely known as a standard for OSHA orientation training, as well as is required for certain construction projects.

Toolbox Tailgate Talk

Supervisors should conduct a brief “toolbox” or “tailgate” safety meeting with their crews at the beginning of the job to emphasize safety - especially with particular machinery, tools and materials. Focus on the tasks to be done during the day or during the extent of the project, along with the types of problems or hazards that may be present and how these might be handled at the jobsite.

The following list is the OSHA construction industry standards that specifically indicate required training.

Construction Industry 29 CFR Part 1926

Subpart C
- General Safety and Health Provisions
- Safety Training and Education
- Employee Emergency Action Plans

Subpart D
- Occupational Health and Environmental Controls
- Medical Services and First-Aid
- Ionizing Radiation
- Nonionizing Radiation
- Gases, Vapors, Fumes, Dusts, and Mists
- Hazard Communication
- Methylenedianiline
- Lead in Construction
- Process Safety Management of Highly Hazardous Chemicals
- Hazardous Waste Operations and Emergency Response

Subpart E
- Personal Protective and Life Saving Equipment
- Hearing Protection
- Respiratory Protection

Subpart F
- Fire Protection and Prevention

Subpart G
- Signs, Signals, and Barricades Signaling

Subpart I
- Tools - Hand and Power
- Powder-Operated Hand Tools
- Woodworking Tools

Subpart J
- Welding and Cutting
- Gas Welding and Cutting
- Arc Welding and Cutting
- Fire Prevention
- Welding, Cutting, and Heating In Way of Preservative Coatings

Subpart K
- Electrical
- Ground Fault Protection

Subpart L
- Scaffolding - Training Requirements

Subpart M
- Fall Protection - Training Requirements

Subpart N
- Hoists, Elevators, and Conveyors
- Material Hoists, Personnel Hoists, and Elevators

Subpart O
- Motor Vehicles, Mechanized Equipment, and Marine Operations
- Material Handling Equipment
- Site Clearing

Subpart P
- Excavations
- General Protection Requirements

Subpart Q
- Concrete and Masonry Construction

Subpart R
- Steel Erection
- Bolting, Riveting, Fitting-up, and Plumbing-up

Subpart S
- Underground Construction, Caissons, Cofferdams, and Compressed Air
- Underground Construction
- Compressed Air

Subpart T
- Demolition
- Preparatory Operations
- Chutes
- Mechanical Demolition

Subpart U
- Blasting and Use of Explosives
- General Provisions
- Blaster Qualifications
- Surface Transportation of Explosives
- Firing the Blast

Subpart V
- Power Transmission and Distribution
- General Requirements
- Overhead Lines
- Underground Lines
- Construction in Energized Substations

Subpart X
- Stairways and Ladders
- Ladders
- Training Requirements

Subpart Y
- Diving
- Commercial Diving Operations

Subpart Z
- Toxic and Hazardous Substances
- Asbestos
- 13 Carcinogens
- Vinyl Chloride
- Inorganic Arsenic
- Cadmium
- Benzene
- Coke Oven Emissions
- 1,2-Dibromo-3-Chloropropane
- Acrylonitrile
- Ethylene Oxide
- Formaldehyde
- Methylene Chloride

Subpart CC
- Cranes, Derricks

Employee Safety Orientation Checklist

Employee Name _____

Job Title _____

		Initials		
		Supervisor	**Employee**	**Date**
1.	Company Safety Policy Statement	_____	_____	_____
2.	Company Safety Rules	_____	_____	_____
3.	Job Orientation	_____	_____	_____
4.	Accident Reporting	_____	_____	_____
5.	Employee Reporting & Communication System	_____	_____	_____
6.	_____	_____	_____	_____
7.	_____	_____	_____	_____
8.	_____	_____	_____	_____

Tools, Machinery and Equipment

Managers are required to conduct "hands on" demonstration on the safe use of tools, machinery and equipment to be used by the employee. Special instruction and emphasis will be placed on safety devices. Identify equipment on which the employee was trained below.

1.	_____	_____	_____	_____
2.	_____	_____	_____	_____
3.	_____	_____	_____	_____
4.	_____	_____	_____	_____
5.	_____	_____	_____	_____
6.	_____	_____	_____	_____
7.	_____	_____	_____	_____
8.	_____	_____	_____	_____

_____ _____

Supervisor Signature Employee Signature

Safety Meetings

Safety meetings are an effective way to implement your safety program. During a safety meeting company policies, procedures, rules, and regulations can be communicated to employees. The use of posters, pamphlets, signs and safety films will help to promote employee involvement. These safety meetings should be documented and signed by all employees attending the session. A file should be kept on all safety activity that is communicated to the employees by the methods mentioned above.

A **Safety Meeting Sign-Up Sheet** and **Safety Activity Log** are provided as part of this safety program.

Safety Meeting Sign-up Sheet

Topic _____ Date _____

Conducted by _____

Please sign in below:

Name

1. _____
2. _____
3 _____
4. _____
5. _____
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27. _____
28. _____
29. _____
30. _____

_____
Supervisor's Signature

Safety Activity Log

Safety Meeting Topic	Date	Comments

V. Special Topics

Aerial Lifts

Aerial Lift & Bucket Truck Operations

1. E-CON ELECTRIC, INC employees shall comply with the manufacturer's specifications and limitations applicable to the operation of cranes and bucket trucks. Manufacturer's specifications are found in the owners or operators manuals with the units. Where manufacturer's specifications are not available, the limitations assigned to the equipment shall be based on the determinations of a qualified engineer competent in this field and such determinations will be appropriately documented and recorded. Attachments used with cranes shall not exceed the capacity, rating, or scope recommended by the manufacturer.
2. Employees operating equipment will follow rated load capacities, recommended operating speeds, special hazard warnings, or other instructions that will be conspicuously posted on all equipment as provided by the manufacturer.
3. Hand signals to crane operators shall be those prescribed by the applicable ANSI standard for the type of crane in use. An illustration of the signals shall be posted at the job site.
4. E-CON ELECTRIC, INC will designate a competent person who shall inspect all machinery and equipment prior to each use, and during use, to make sure it is in safe operating condition. Any deficiencies shall be repaired, or defective parts replaced, before continued use.
5. A manufacturer representative or their designated repair facility shall make a thorough, annual inspection of the hoisting machinery. E-CON ELECTRIC, INC will maintain a record of the dates and results of inspections for each hoisting machine and bucket truck with the Fleet Manager.
6. Wire rope shall be taken out of service when any of the following conditions exist:
    a. In running ropes, six randomly distributed broken wires in one lay or three broken wires in one strand in one lay;
    b. Wear of one-third the original diameter of outside individual wires. Kinking, crushing, bird caging, or any other damage resulting in distortion of the rope structure;
    c. Evidence of any heat damage from any cause;
    d. Reductions from nominal diameter of more than one-sixty-fourth inch for diameters up to and including five-sixteenths inch, one-thirty-sE-Con Electric, Incd inch for diameters three-eighths inch to and including one-half inch, three-sixty fourths inch for diameters nine-sixteenths inch to and including three-fourths inch, one-sixteenth inch for diameters seven-eighths inch to 1 118 inches inclusive, three-thirty-sE-Con Electric, Incds inch for diameters 1 *1/4* to 1 112 inches inclusive;
    e. In standing ropes, more than two broken wires in one lay in sections beyond end connections or more than one broken wire at an end connection.
    f. Wire rope safety factors shall be in accordance with American National Standards Institute B 30.5-1968 or SAE J959-1966.
7. Belts, gears, shafts, pulleys, sprockets, spindles, drums, fly wheels, chains, or other reciprocating, rotating, or other moving parts or equipment shall be guarded if such parts are exposed to contact by employees, or otherwise create a hazard.
8. Accessible areas within the swing radius of the rear of the rotating superstructure of the crane, either permanently or temporarily mounted, shall be barricaded in such a manner as to prevent an employee from being struck or crushed by the crane.
9. All exhaust pipes shall be guarded or insulated in areas where contact by employees is possible in the performance of normal duties.
10. Whenever internal combustion engine powered equipment exhausts in enclosed spaces, tests shall be made and recorded to see that employees are not exposed to unsafe concentrations of toxic gases or oxygen deficient atmospheres.
11. An accessible fire extinguisher of 5BC rating, or higher, shall be available at all operator stations or cabs of equipment.
12. Except where electrical distribution and transmission lines have been de-energized and visibly grounded at point of work or where insulating barriers, not a part of or an attachment to the equipment or machinery, have been erected to prevent physical contact with the lines, equipment or machines shall be operated proximate to power lines only in accordance with the following:
    a. For lines rated 50Kv. or below, minimum clearance between the lines and any part of the crane or load shall be 10 feet;
    b. For lines rated over 50Kv, minimum clearance between the lines and any part of the crane or load shall be 10 feet plus 0.4 inch for each 1 kV. over 50 kV., or twice the length of the line insulator, but never less than 10 feet;

c. In transit with no load and boom lowered, the equipment clearance shall be a minimum of 4 feet for voltages less than 50kv, and 10 feet for voltages over 50Kv., up to and including 345Kv., and 16 feet for voltages up to and including 750Kv.
d. A person shall be designated to observe clearance of the equipment and give timely warning for all operations where it is difficult for the operator to maintain the desired clearance by visual means;
e. Any overhead wire shall be considered to be an energized line unless and until the person owning such line or the electrical utility authorities indicate that it is not an energized line and it has been visibly grounded;
    i. Prior to work near transmitter towers where an electrical charge can be induced in the equipment or materials being handled, the transmitter shall be de-energized or tests shall be made to determine if electrical charge is induced on the crane. The following precautions shall be taken when necessary to dissipate induced voltages:
    ii. The equipment shall be provided with an electrical ground directly to the upper rotating structure supporting the boom; and
    iii. Ground jumper cables shall be attached to materials being handled by boom equipment when electrical charge is induced while working near energized transmitters. Crews shall be provided with nonconductive poles having large alligator clips or other similar protection to attach the ground cable to the load.
    iv. Combustible and flammable materials shall be removed from the immediate area prior to operations.

13. No modifications or additions, which affect the capacity or safe operation of the equipment, shall be made without the manufacturer's written approval. If such modifications or changes are made, the capacity, operation, and maintenance instruction plates, tags, or decals, shall be changed accordingly. In no case shall the original safety factor of the equipment be reduced.
14. All employees shall be kept clear of loads about to be lifted and of suspended loads.
15. Crawler, locomotive, and truck cranes.
    a. All jibs shall have positive stops to prevent their movement of more than 5 deg above the straight line of the jib and boom on conventional type crane booms.
    b. All crawler, truck, or locomotive cranes in use shall meet the applicable requirements for design, inspection, construction, testing, maintenance and operation as prescribed in the ANSI B30.5-1968, Safety Code for Crawler, Locomotive and Truck Cranes. However, the written, dated, and signed inspection reports and records of the monthly inspection of critical items prescribed in section 5-2.1.5 of the ANSI B30.5-1968 standard are not required. Instead, CCIIE-CON ELECTRIC, INC shall prepare a certification record that includes the date the crane items were inspected; the signature of the person who inspected the crane items; and a serial number, or other identifier, for the crane inspected. The most recent certification record shall be maintained on file with the Fleet Manager until a new one is prepared.
16. All crane operations in the U.S. must be performed in accordance with federal/state OSHA regulations, specifically 29 CFR Partl926.550 "Cranes and Derricks. OSHA requires all crane operators to be qualified to operate their crane. OSHA 1926.550 incorporates, by reference, the national standard entitled ASME B30.5 "Mobile Cranes", 2000 Rev. Note that OSHA and ASME B30.5 consider boom trucks to be a crane. ASME B30 .5, section 5-3.1.2 defines six necessary elements for crane operator qualification. These elements include:
    a. A physical examination every 3 years. (Paragraph 5-3.1.2 (b)(l))
    b. Completion of a written crane operation exam. (Paragraph 5-3.1.2 (b)(2))
    c. Demonstration of the ability to read and use a crane load chart. (Paragraph 5-3.1.2 (b)(3))
    d. Completion of a written and verbal load chart exam. (Paragraph 5-3.1.2 (b)(4))
    e. Completion of a practical operational skill test. (Paragraph 5-3.1 .2 (b)(5))
17. Demonstration of an understanding of crane related laws and standards. (Paragraph 5-3.1.2 (b)(6))This information will be filed in the employee's personnel file.
18. At all time when aloft in the basket of a bucket truck the operator will wear a hard hat, safety glasses, full body harness with lanyard attached to the attachment point on the bucket arm.
    - Fall restraint system must be attached to the boom or basket

- Lift controls and equipment shall be tested & inspected before each use.

- Only authorized persons are allowed to operate the equipment.

- Load limits shall not be exceeded.
- Equipment will have a working back-up alarm or use a spotter when backing.
- Minimum clearance between electrical lines and any part of the equipment is at least 10 feet.
- Employees shall stand firmly on the floor and shall not climb on the rails or the edge of the basket.
- Approved fall restraint system shall be worn while working from an aerial lift.

AERIAL WORK PLATFORM PERMITS

Permits & Training.

1) An employer shall provide the operator of an aerial work platform with an aerial work platform permit
2) The requirements of sub rule (8)(a), (b), (c) and (d) of this rule shall be met before an employee is issued a permit.
3) A permit shall be carried by the operator or be available at the job site and shall be displayed upon request by a department of consumer and industry services representative.
4) A permit shall indicate the type of aerial work platforms an operator has been trained on and is qualified to operate.
5) A permit to operate an aerial work platform is valid only when performing work for the employer who issued the permit. A permit shall be issued for a period of not more than 3 years.
6) A permit shall contain all of the following information:
    a. Firm name.
    b. Operator's name.
    c. Name of issuing authority. (Authorized by)
    d. The following types of aerial work platform the operator is authorized to operate:
        i. Vehicle-mounted elevating work platform such as:
            1. Extendable boom aerial devices.
            2. Aerial ladders.
            3. Actuating boom aerial devices.
        ii. Manually propelled elevating work platforms.
        iii. Boom-supported elevating work platforms.
        iv. Self-propelled elevating work platforms.
    e. Date Issued.
    f. Expiration date.
7) (Copy of E-CON ELECTRIC, INC permit)
8) **An employer shall provide each employee who will operate the; aerial work platform with instruction and training regarding the equipment before a permit is issued or reissued. Such instruction and training shall ensure that each operator is in compliance with the minimum following provisions:**
    a. **Is instructed by a qualified person in the intended purpose and function of each of the controls.**
    b. **Is trained by a qualified person or reads and understands the manufacturer's or owner's operating instructions and safety rules.**
    c. **Understands by reading or by having a qualified person explain, all decals, warnings, and instructions displayed on the aerial work platform.**
    d. **Reads and understands the provisions of this sub rule and sub rules (1) to (7) and (9) of this rule or be trained by a qualified person on their content.**
9) The manufacturer's operating instructions and safety rules shall be provided and maintained in a legible manner on each unit by the employer.

AERIAL BUCKET WORK PERMIT

E-Con Electric Inc

_____

(Name)

Type of aerial work platform to operate: Vehicle mounted extendable boom aerial devices

Date issued: _____

Authorized by: _____

Expiration Date: _____

(permit is valid for three years from date of issuance)

This permit shall be carried by the operator or be available at the job site and shall be displayed upon request by a department of consumer and industry services representative.

AERIAL WORK PLATFORM OPERATORS PERMIT

E-Con Electric Inc.

_____

(Name)

Type of aerial work platform to operate: Manual and Self-Propelled Aerial Work Platforms

Date issued: _____

Authorized by: _____

Expiration Date: _____

(permit is valid for three years from date of issuance)

A copy of this permit shall be carried by the operator or be available at the job site and shall be displayed upon request by a department of consumer and industry services representative.

Complete and forward this form to corporate for inclusion in the employees file

CERTIFICATE OF TRAINING

_____
Printed employee's name

E-Con Electric Inc _____
Location

POWERED INDUSTRIAL LIFT TRUCK TRAINING INSTRUCTION AND OPERATIONAL

OSHA 29 CFR Subpart N - Materials Handling and Storage, 1910.178 describes methods to use for compliance with powered industrial lift truck operations, maintenance, inspection and training.

This is to certify that I have attended the above training program which has informed me of the following:

Safety procedures for picking up loads.
Safety procedures for traveling with loads.
Safety procedures for stacking and dropping loads.
Discussion on lift truck capacity, load center and center of gravity
Safe loading/unloading procedures
General safe operating procedures
Proficiency demonstrated in safe handling of industrial lift truck.
Safe travel habits exercised in operation of lift truck.
Awareness of mechanical components and their function.
How to handle mechanical emergencies while operating equipment
Practiced general safe operating procedures.
Inspection of equipment to determine safe operating condition.

_____ _____
Date Employee's Signature

_____ _____
Date Trainer's Signature

Forward the completed Training Certificate to the Corporate

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Compressed Air
Guidelines

- Check the condition of the hose. Air hoses are designed to withstand pressure, but become weakened at bends, kinks, and connections to shut-off valves and nozzles. Such weak points may swell and burst, throwing pieces of hose in every direction, also causing the hose to thrash about dangerously.

- Keep the air hose off the floor. It is a tripping hazard and is subject to damage by trucks, doors, and dropped tools.

- Always coil the hose, without kinks, and hang it over a broad support when not in use.

- Where you have choice of pressure, use the lowest pressure possible.

- Air pressure against the skin may penetrate deeply to cause internal hemorrhage and intense pain. Air that enters body openings may burst internal organs.

- It is dangerous to use compressed air to remove dust from clothing. Use safer, better ways of cleaning dust from your clothes. Dust blown from anything merely rises and settles again to become a nuisance.

- Air compressors shall be equipped with pressure relief valves and pressure gauge.

- Use low pressure (under 30psi) and the correct nozzle to remove duct or particles from jigs, fixtures or deep holes in parts. Wear cup type goggles and set up shields to protect others in the area.

- For transferring liquids from properly rated pressure vessels, check air pressure, attach hose connection tightly, remain at control valve to shut off in emergency, and make sure bleed-off valve and pressure relief valve work. Never use compressed air to transfer flammable liquids.

- Air filters shall be installed on the compressor intake to ensure only clean, uncontaminated air enters the compressor.

- Safety devices on compressed air systems shall be checked frequently.

- Before any repair work is done on the pressure system of a compressor, the pressure shall be bled off and the system locked-out.

- Signs shall be posted to warn of the automatic starting

- Feature of the compressors.

- The belt drive system shall be totally enclosed to provide protection for the front, back, top and sides.

- When compressed air is used with abrasive blast cleaning equipment, the operating valve shall be of the type that must be held open manually.

- A clip on chuck and an in line regulator (preset to 40psi) shall be required when compressed air is used to inflate auto tires.

Compressed Gases
Guidelines

Any material that is under pressure can be dangerous if it is not handled properly. If the material is a compressed gas it may be flammable, explosive, reactive, toxic or a combination of these. Because of the hazards of compressed gases, it is important to know what you are working with, what the hazardous properties are, and how to safely handle the compressed gas cylinder.

The following compressed gases require special treatment:

Oxygen: Oxygen is not flammable, but increases the tendency of things around it to burn or explode. Keep oxygen cylinders away from combustible or flammable materials and fire hazards, including oil or grease on your hands, clothes and work area. Oxygen should not be used for compressed air.

Chlorine and Fluorine: These gases are highly corrosive and irritating and will attack many materials. When combined with acetylene, and exposed to light, they may explode. In water chlorine will form corrosive hydrochloric acid, attacking iron or steel equipment. A gas mask and other protective equipment should be available.

Ammonia: Ammonia is a highly corrosive gas that requires quick access to a gas mask and other protective equipment.

Acetylene and Hydrogen: Both are highly explosive gases requiring extreme caution when handling. Hydrogen escapes easily around threaded fittings. Friction of escaping gas can ignite spontaneously. Hydrogen has no odor to warn of a leak.

- Cylinders should always be chained in upright position to a wall, cylinder truck, cylinder rack or post. This becomes more important when gas is in use, as a regulator is attached to the cylinder valve and the safety cap is not in place.

- Always replace the cylinder cap when the cylinder is not in use or when it is being moved.

- Never place cylinders in hallways or work areas where they could be hit by fork lift trucks or struck by falling objects.

- Never hammer, pry or wedge a stuck or frozen cylinder valve to loosen it, and never use a wrench. If a valve will not open by hand, call the gas distributor.

- Do not rely on the color of the cylinder to identify the gas inside, as suppliers use different color codes. Return any unidentifiable cylinders to the supplier.

- Keep cylinders away from electrical circuits and excessive heat. Cylinders are made of steel and will conduct electricity.

- Keep cylinders away from the sparks, hot slag of molten metal resulting from welding, cutting, machining or foundry operations. Using or storing cylinders at temperatures in excess of 130 degrees F is in violation of DOT regulations. Keep cylinders out of direct sunlight as gases expand when heated. A cylinder at 2200 psig and 70 degrees F will increase in pressure to 2451 psig at 130 degrees F.

- Always "crack" the cylinder valve (open it slightly and close it immediately) before attaching a gas regulator to any cylinder, **except hydrogen or fuel gas cylinders.** Cracking removes any dirt that may be lodged in the valve outlet, and prevents dirt from entering the regulator. Wipe out the outlet connections on hydrogen or fuel gas cylinders with a clean, dry, lint free cloth. Do not stand in front of the valve outlet while cracking it, and do not point the outlet at anyone.

- Always use a cylinder wrench or other tightly fitting wrench to tighten the regulator nut and hose connections.

- Store fuel gas cylinders away from oxygen and compressed gas cylinders. OSHA regulations require stored oxygen cylinders be separated from fuel gas cylinders and combustible materials by at least 20 feet or by a noncombustible barrier at least 5 feet high having a fire resistive rating of a least one/half hour.

- Keep unauthorized persons away from the cylinder storage areas. Use a lock or fence if necessary.

- **"No Smoking"** signs should be posted around all fuel gas and oxygen storage areas.

- Under certain conditions, otherwise harmless gases can kill. Inert gases such as argon, helium, carbon dioxide and nitrogen can cause asphyxiation. Always use these gases in well ventilated areas.

Construction Site Safety Guidelines

- **Perimeter Barricades**: Entire construction site should be fenced, or otherwise secured, to prevent unauthorized persons from intentionally or unintentionally entering the work site.
- **Internal Barricades:** Barricades will help warn workers of hazardous areas where dangerous conditions might exist.
- **Tools:** Tools should be well maintained. They should be properly stored when not in use. The correct tool should always be used for the job.
- **Walkways:** Walkways should be clearly marked and roped off, allowing employees to safely enter and leave the work site.
- **Housekeeping:** All debris, tools and equipment, should be picked up and either stored or disposed of in the proper location.
- **Excavations:** Excavations should get special attention and a detailed company procedure should be followed.
- **Above Ground Work:** Ladders and scaffolds should be regularly inspected for damage and weakness. Specific safety rules should be adopted for these devices.
- **Electricity:** Electrical power sources not necessary for construction should be shut off. Insulate all wiring and post warnings around live wires. Fuses, circuit breakers, and ground fault interrupters should be used to help prevent shock injury. Be aware of the dangers of overhead wires.
- **Fires:** Fire protection equipment should be made available and employees trained in proper use.
- **Personal Protective Equipment:** Safety equipment such as shoes, gloves, hard hats, and eye protection should be provided to all employees at the site. All employees should use and maintain these items.

Electrical
Guidelines

- When electrical equipment or lines are to be serviced, maintained or adjusted, necessary switches should be opened, locked-out and tagged-out whenever possible.
- All portable electrical tools and equipment should be grounded or double insulated type.
- Extension cords should have grounded conductors and insulation in good condition.
- Use of metal ladders is prohibited in areas where the ladder or the person using the ladder could come in contact with energized parts of equipment, fixtures or circuit conductors.
- Exposed wiring and cords with frayed or deteriorated insulation should be repaired or replaced.
- All cord, cable and raceway connections should be intact and secured. All unused openings in electrical enclosures and fittings closed with appropriate covers, plugs, or plates. Electrical enclosures such as switches, receptacles, or junction boxes should be provided with tight fitting covers or plates.
- Ground fault circuit interrupters should be installed on each temporary 15 or 20 ampere, 120 volt AC circuit at locations where construction, demolition, modifications, alterations or excavations are being performed.
- Electrical installations in hazardous dust or vapor areas should meet the National Electrical Code (NEC) for hazardous locations Class I, Division 1.
- Inspect all electrical equipment before using. Use only equipment in good condition.
- Start and end electrical equipment with switch in "OFF" position. Do not leave the switch in the "ON" position and use the plug to turn the equipment on and off.
- Installation work should be in compliance with the National Electric Code Standards, OSHA, local building codes and ordinances. This work should be performed by a qualified and fully licensed electrician.
- Fixtures, appliances and equipment used should be listed or labeled by Underwriters Laboratories or another nationally accepted testing organization.
- Training requirements for employees in safety related work practices that pertain to their respective job assignments shall performed.
- All electrical work performed is to be done safely-Recognizing related work practices to prevent electric shock?
- When working on or near exposed deenergized parts they are treated as live.
- Lockout/Tagout program must be utilized to prevent electrical shock.
- Only qualified persons may work on energized parts.
- Adequate illumination -Employees may not enter spaces containing exposed energized parts unless illumination is provided that enables the employees to work safely.

ELECTRICAL SAFETY (QUALIFIED) PROCEDURE

This procedure sets forth the requirements of the OSHA subpart K standard. Employees and subcontractor employees shall comply with these standards. All electrical installations will conform to all national, federal, state, and local codes.

A. GENERAL REQUIREMENTS

1. All electrical equipment shall be free of recognized hazards that are likely to cause death or physical harm to employees.
2. Electrical equipment shall be marked with the following identification:
    a. Manufacture's name
    b. Voltage,current, wattage
    c. Other ratings as necessary
3. Each disconnect or breaker, temporary or permanent, shall be marked to indicate its purpose.
4. All live electrical parts shall be guarded against accidental contact by:
    a. Cabinets or other suitable enclosures
    b. Partitions or screens with openings small enough to prevent accidental contact
    c. Elevated to prevent contact
5. Entrances to rooms, which contain exposed live parts, shall be marked. "Danger Energized Equipment"
6. The" Lock *Out!* Tag Out Program shall be followed when performing repair and maintenance work on electrical equipment.
7. Industry standard safe work practices shall be employed to prevent electric shock or other injuries resulting from direct or indirect electrical contact when working near or on equipment or circuits that are or could be energized. This includes the proper use of insulating rubber gloves and mats, maintaining safe clearance distances, properly tested and labeled tools, and isolating the area to prevent injury to others working nearby.

B. TRAINING

1. Qualified employees who have been trained on the requirements of the applicable electrical codes and are qualified for the class work to be done shall perform all electrical work. This training shall include:
    a. Circumstances where employees could face the risk of electric shock that is not reduced to a safe level.
    b. Safety related work practices that pertain to their specific and related job assignments.
    c. Skills and techniques to distinguish energized parts and their nominal voltages.
    d. Clearance distances for working near energized parts.

C. WORKING ON OR NEAR EXPOSED DE-ENERGIZED PARTS.

1. It is always preferable to de-energize and test all circuits in the work area prior to working there. Sometimes that is not practical so special precautions must be taken.
2. This section applies to work on exposed energized parts or near enough to them to expose the employee to any electrical hazard they present. Conductors and parts of electric equipment that have been de-energized but have not been locked out or tagged shall be treated as energized parts.
3. 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 shall be locked out or tagged or both in accordance with the LOCKOU/TAGOUT procedure.

D. DE-ENERGIZING EQUIPMENT

1. Safe procedures for de-energizing circuits and equipment shall be determined before circuits or equipment are de-energized.
2. The circuits and equipment to be worked on shall 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.
3. Stored electric energy that might endanger personnel shall be released. Capacitors shall be discharged and high capacitance elements shall 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 shall be treated as energized.
4. Stored non-electrical energy in devices that could reenergize electric circuit parts shall be blocked or relieved to the extent that the circuit parts could not be accidentally energized by the device.

5. Occasionally, a circuit must be worked on while energized. Only qualified persons may work on electric circuit parts or equipment that have not been de-energized. Such persons must be familiar with the use of special precautionary techniques, PPE, insulating & shielding materials and insulated tools.

E. APPLICATION OF LOCKS AND TAGS

1. A lock and a tag shall be placed on each disconnecting means used to de-energize circuits and equipment on which work is to be performed. The lock shall be attached so as to prevent persons from operating the disconnecting means unless they resort to undue force or the use of tools.
2. Each tag shall contain a statement prohibiting unauthorized operation of the disconnecting means and removal of the tag.
3. If a lock cannot be affixed, the procedures below apply.
    a. If a lock cannot be applied, or if the employer 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.
    b. A tag used without a lock shall be supplemented by at least one additional safety measure that provides a level of safety equivalent to that obtained by 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.
    c. A lock may be placed without a tag only under the following conditions:
        i. Only one circuit or piece of equipment is de-energized, and
        ii. The lockout period does not extend beyond the work shift, and
        iii. Employees exposed to the hazards associated with reenergizing the circuit or equipment are familiar with this procedure.

F. VERIFICATION OF DE-ENERGIZED CONDITION.

1. The requirements of this paragraph shall be met before any circuits or equipment can be considered and worked as de-energized.
2. A qualified person shall operate the equipment operating controls or otherwise verify that the equipment cannot be restarted.
3. A qualified person shall use test equipment to test the circuit elements and electrical parts of equipment to which employees will be exposed and shall verify that the circuit elements and equipment parts are de-energized. The test shall also determine if any energized condition exists as a result of inadvertently induced voltage or unrelated voltage back feed 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 shall be checked for proper operation immediately after this test.

G. REENERGIZING EQUIPMENT

1. These requirements shall be met, in the order given, before circuits or equipment are reenergized, even temporarily.
    a. A qualified person shall conduct tests and visual inspections, as necessary, to verify that all tools, electrical jumpers, shorts, grounds, and other such devices have been removed, so that the circuits and equipment can be safely energized.
    b. Employees exposed to the hazards associated with reenergizing the circuit or equipment shall be warned to stay clear of circuits and equipment.
    c. Each lock and tag shall 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:
        i. The employer ensures that the employee who applied the lock or tag is not available at the workplace, and
        ii. The employer ensures that the employee is aware that the lock or tag has been removed before he or she resumes work at that workplace.
        iii. There shall be a visual determination that all employees are clear of the circuits and equipment.

H. WORKING NEAR OR UNDER OVERHEAD LINES

1. Where if work is to be performed under overhead lines, the lines shall be de-energized and grounded, or other protective measures shall be provided before work is started. If the lines are to be de-energized, arrangements shall be made with the person or organization that operates or controls the electric circuits involved to de-energize and ground them. If protective measures,

such as guarding, isolating, or insulating, are provided, these precautions shall prevent employees from contacting such lines directly with any part of their body or indirectly through conductive materials, tools, or equipment.

2. "Qualified persons." When a qualified person is working in the vicinity of overhead lines, whether in an elevated position or on the ground, the person may not approach or take any conductive object without an approved insulating handle closer to exposed energized parts than shown in Table S-5 unless:
    a. The person is insulated from the energized part (gloves, with sleeves if necessary, rated for the voltage involved are considered to be insulation of the person from the energized part on which work is performed), or
    b. The energized part is insulated both from all other conductive objects at a different potential and from the person, or
    c. The person is insulated from all conductive objects at a potential different from that of the energized part.

TABLE S-5 - APPROACH DISTANCES FOR QUALIFIED EMPLOYEES - ALTERNATING CURRENT

Voltage range (phase to phase)	Minimum approach distance
300V and less	Avoid Contact
Over 300V, not over 750V	1 ft. 0 in. (30.5 cm).
Over 750V, not over 2kV	1 ft. 6 in. (46 cm).
Over 2kV, not over I5kV	2 ft. 0 in. (61 cm).
Over 15kV, not over 37kV	3 ft. 0 in. (91 cm).
Over 37kV, not over 87.5kV	3 ft. 6 in. (107 cm).
Over 87.5kV, not over 121kV	14 ft. 0 in . (122 cm).
Over 121kV, not over 140kV	14 ft. 6 in. (137 cm).

I. VEHICULAR AND MECHANICAL EQUIPMENT

1. Any vehicle or mechanical equipment capable of having parts of its structure elevated near energized overhead lines shall be operated so that a clearance of 10 ft. (305 cm) is maintained.
2. If the voltage is higher than 50kV, the clearance shall be increased 4 in. (10 cm) for every 10kV over that voltage. However, under any of the following conditions, the clearance may be reduced:
    a. 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 shall be increased 4 in. (10 cm) for every 10 kY over that voltage.
    b. 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.
    c. 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 Iift and the power line) may be reduced to the distance given in Table S-5.
3. 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 above.
4. 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.
5. Additional precautions, such as the use of barricades or insulation, shall be taken to protect employees from hazardous ground potentials, depending on earth resistively and fault currents, which can develop within the first few feet or more outward from the grounding point.

J. CONDUCTIVE MATERIALS AND EQUIPMENT

1. Materials and equipment that are in contact with any part of an employee's body shall be handled in a manner that will prevent them from contacting exposed energized conductors or circuit parts.
2. If an employee must handle long dimensional conductive objects (such as ducts and pipes) in areas with exposed live parts, the employer shall institute work practices (such as the use of insulation, guarding, and material handling techniques) that will minimize the hazard.

K. PORTABLE LADDERS

1. Portable ladders shall have nonconductive side rails if they are used where the employee or the ladder could contact exposed energized parts.

L. CONDUCTIVE APPAREL

1. 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 non conductive by covering, wrapping, or other insulating means.

M. TEMPORARYPOWER

1. All receptacles for employee use during construction activities shall be protected by a Ground Fault Interrupter System (GFCI).
2. Temporary power on construction projects shall provide the following protection by:
    a. Installing approved GFCI type receptacles inside panel boxes.
    b. All electrical equipment exposed to outside conditions shall be weatherproof.
    c. Conduct monthly inspections of GFCI electrical equipment.
    d. Provide portable GFCI outlets were permanent power exists
    e. All temporary electric wiring shall be installed in a manor to prevent damage to the wiring.
    f. Energized wiring in Junction Boxes, Circuit breakers panels shall be covered at all times.

N. TEMPORARY LIGHTING

1. Adequate lighting shall be provided throughout the buildings and in all work areas, particularly in passageways and stairways. Temporary Lights shall be equipped with guards to prevent accidental contact with the bulbs. Broken or burned out lamps shall be replaced promptly.
2. Temporary lights shall be equipped with heavy-duty electric cords with connections and insulation maintained in a safe condition. Splices shall have insulation equal to the cable.
3. Lights shall not be hung by their cords, unless designed for that use.

O. ILLUMINATION

1. Lighting shall not be less than:
    a. 5 foot-candles for general construction areas
    b. 10 foot- candles for indoor work areas, toilets
    c. 30 foot- candles for first aid stations and offices
    d. Adequate illumination -Employees may not enter spaces containing exposed energized parts unless illumination is provided that enables the employees to work safely.

P. ELECTRICAL CORDS

1. All extension cords are required to be designed for hard or extra hard usage.
2. Protected from damage
3. Inspected prior to use

Q. CONFINED OR ENCLOSED WORKSPACES

1. When working in confined or enclosed workspaces where electrical hazards may exist the use of protective shields, protective barriers or insulating materials as necessary shall be used to protect personnel.

ELECTRICAL SAFETY (UNQUALIFIED) PROCEDURE

1. Employees who are not "qualified" in electrical work may work in the vicinity of electrical work in progress.
2. They must be trained in and familiar with all electrically related safety practices that are necessary for their safety.
3. (Unqualified) employees will be trained using the (qualified) electrical Safety Procedure emphasizing the safe work practices to avoid contact with energized electrical parts and circuits.
4. Specifically, (unqualified) employees shall be trained on how to work safely near the following whenever they are required to work in the vicinity of such installations or areas. This training will be completed and the unqualified employee quizzed for understanding before they commence work. A "qualified" electrician must do the training.
    a. Premises wiring. Installations of electric conductors and equipment within or on buildings or other structures, and on other premises such as yards, carnival, parking, and other lots, and industrial substations.
    b. Wiring for connection to supply. Installations of conductors that connect to the supply of electricity; and other wiring.
    c. Optical fiber cable. Installations of optical fiber cable where such installations are made along with electric conductors.
    d. Generation, transmission, and distribution of electric energy (including communication and metering) located in buildings used for such purposes or located outdoors.
5. Work on or directly associated with generation, transmission, or distribution installations includes:
    a. Work performed directly on such installations, such as repairing overhead or underground distribution lines or repairing a feed-water pump for the boiler in a generating plant.
    b. Work directly associated with such installations, such as line-clearance tree trimming and replacing utility poles.
    c. Work on electric utilization circuits in a generating plant provided that:
        i. Such circuits are commingled with installations of power generation equipment or circuits, and
        ii. The generation equipment or circuits present greater electrical hazards than those posed by the utilization equipment or circuits (such as exposure to higher voltages or lack of over-current protection).
    d. Communications installations. Installations of communication equipment to the extent that the work is covered under OSHA 1910.268.
    e. Installations in vehicles. Installations in ships, watercraft, railway rolling stock, aircraft or automotive vehicles other than mobile homes and recreational vehicles.
    f. Railway installations. Installations of railways for generation, transformation, transmission, or distribution of power used exclusively for operation of rolling stock or installations of railways used exclusively for signaling and communication purposes.
6. When an unqualified person is working in an elevated position near overhead lines, the location shall be such that the person and the longest conductive object he or she may contact cannot come closer to any unguarded, energized overhead line than the following distances:
    a. For voltages to ground 50kV or below - 10 feet (305 cm);
    b. For voltages to ground over 50kV - 10 feet (305 cm) plus 4 inches (10 cm) for every 10k V over 50k V.
7. When an unqualified person is working on the ground in the vicinity of overhead lines, the person may not bring any conductive object closer to unguarded, energized overhead lines than the distances given in paragraph 6 above.
8. For voltages normally encountered with overhead power line, objects which do not have an insulating rating for the voltage involved are considered to be conductive.

Eye Protection
Guidelines

In all operations where striking and struck tools are used, or where the cutting action of a tool causes particles to fly, eye protection (American National Standards Institute Z87.1- *Practice for Occupational and Educational Eye and Face Protection*) is needed by the user of the tool and by others who may be exposed to flying particles.

- Protective equipment, including personal protective equipment for eyes and face, shall be provided, used, and maintained in a sanitary and reliable condition. This protection should be provided whenever it is necessary by reason of hazards of processes or entrainment, chemical hazards, radiological hazards, or mechanical irritants encountered in a manner capable of causing injury or impairment in the function of any part of the body through absorption, inhalation or physical contact.

- Where employees provide their own protective equipment, the employer shall be responsible to assure its adequacy, including proper maintenance, and sanitation of such equipment.

- Protective eye and face equipment shall be required where there is a reasonable probability of injury that can be prevented by such equipment. In such cases, employers shall make conveniently available a type of protector suitable for the work to be performed, and employees shall use such protectors.

- Persons whose vision requires the use of corrective lenses in spectacles, and who are required by this standard to wear eye protection, shall wear goggles or spectacles of the following types: spectacles whose protective lenses provide optical protection or goggles that can be worn over corrective lenses mounted behind the protective lenses.

- Safety goggles or face shields should be worn when woodworking or cutting tools, such as chisels, brace bits, planes, scrapers, and saws are used and there is a chance of particles falling or flying into the eyes.

- Eye protection should be worn when working with grinders, buffing wheels and scratch brushes.

- Jobs such as cutting wire and cable, hand drilling, removing nails, chipping concrete, shoveling material or working under objects where particles of materials may fall require eye protection.

- Wear eye protection, keep it clean and fit for use, wear the right protection for the job.

First Aid for Eye Injuries
Guidelines

All Employees Should Know:

- Location of the eyewash stations, sinks, and lens cleaning stations and how to use them
- What to do in an eye emergency until help arrives.
- Name of the person who is trained in first aid.

The following is a list of basic first aid procedures for various types of eye injuries. Be aware of your organization's first aid procedures and policies which may differ from those listed.

Small particles, specks or dust

- Don't rub the eye. Hold eye open and flush with water at nearest eyewash station. Can also try pulling upper lid out and down over lower lid, causing the eye to tear and particle to wash out.

Blow to the eye

- Apply an ice cold compress for 15 minutes in order to reduce pain and swelling. Have a doctor examine the eye as soon as possible to make sure there is no internal injury.

Chemical splash

- Flush immediately with water at nearest eyewash station or shower for at least 15 minutes. Do not rub or squeeze eye shut. Seek medical attention immediately.

Object embedded in eye

- Do not try to remove the object. Cover both eyes to help prevent movement of injured eye. If object is large and protruding, cover it with a paper cup or something similar. Seek medical attention.

Light burns

- Symptoms include redness, swelling, light sensitivity and a gritty feeling in the eyes. Symptoms may not be apparent until 3-12 hours after injury. Keep eyes closed and seek medical attention immediately.

Fire Extinguishers
Guidelines

- A fire extinguisher, rated not less than 2A 10B:C, should be provided for each 3,000 square feet of the protected building area or major fraction thereof. Travel distance from any point of the protected area to the nearest fire extinguisher shall not exceed 75 feet.

- One or more fire extinguishers should be provided for each floor. In multi-story buildings, at least one fire extinguisher should be posted adjacent to the stairway.

- Fire extinguishers should be conspicuously located and readily accessible at all times. They should be periodically inspected and maintained in operating condition.

- Carbon tetrachloride and other toxic vaporizing liquid fire extinguishers are prohibited.

- Each fire extinguisher is considered professional equipment and its effectiveness in protecting property depends on knowing: What it can and cannot do how to use it, where to install it, how to maintain it, knowledge of classes or types of fires, what class or classes of fire the extinguisher is capable of extinguishing.

- Training should be provided for the use of fire extinguishers.

Classes of Fires

Class A-Fires in ordinary combustible materials (wood, paper, cloth)

Class B-Fires involving flammable liquids, gases and greases.

Class C-Fires which involve energized electrical equipment.

Class D-Fires in combustible metals.

FIRE PROTECTION, EXTINGUISHERS

Each E-Con employee will be trained and familiarized upon initial assignment and at least yearly thereafter with fire extinguisher use for the type of extinguisher at each job site and the hazards involved with incipient stage fire fighting.

Fire protection shall be provided at each project. Protection equipment consists of 201b. Dry chemical ABC - type fire extinguishers. Fire extinguishers shall be located in each job trailer. All extinguishers shall be conspicuously located. In addition, a 20 lb. ABC extinguisher will be required for each 3,000 sq. ft. of building with travel distance from any area not to exceed IOO ft. For multi-story buildings provide at least one extinguisher per floor, located adjacent to the stairway. In addition:

- At least one ABC dry chemical 20 lb. Extinguisher shall be located at least 25 ft. , but no more than 75 ft. , from any flammable liquid storage area located outdoors.
- A minimum of one 2 lb. ABC extinguisher shall be located in the cab and/or operator station of all cranes and trucks over I0,000 lbs.
- At least on 20 lb. ABC extinguisher shall be located within lOft. of all welding and burning/cutting operations.

Each extinguisher will be have a monthly vision check (recorded on the extinguisher maintenance tag) by the job site supervisor, and inspected by a certified fire extinguisher inspection service annually or when they have been discharged or damaged.

Emergency telephone numbers shall be posted at all job-sites showing name and address of job-site, along with its location, and the local fire department number.

Table F-1 FIRE EXTINGUISHERS DATA

	WATER TYPE				FOAM	CARBON DIOXIDE	DRY CHEMICAL			
							SODIUM OR POTASSIUM BICARBONATE		MULIT-PURPOSE ABC	
	STORED PRESSURE	CARTRIDGE OPERATED	WATER PUMP TANK	SODA ACID	FOAM	CO2	CARTRIDGE OPERATED	STORED PRESSURE	STORED PRESSURE	CARTRIDGE OPERATED
CLASS A FIRES WOOD, PAPER, TRASH HAVING GLOWING EMBERS	YES	YES	YES	YES	YES	NO	NO	NO	YES	YES
CLASS B FIRES FLAMMABLE LIQUIDS GASOLINE, OIL, PAINTS GREASE, ETC.	NO	NO	NO	NO	YES	YES	YES	YES	YES	YES
CLASS C FIRES ELECTRICAL EQUIPMENT	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES
CLASS D FIRES COMBUSTIBLE METALS	SPECIAL EXTINGUISHING AGENTS APPROVED BY RECOGNIZED TESTING									
METHOD OF OPERATION	PULL PIN-SQUEEZE HANDLE	TURN UPSIDE DOWN AND BUMP	PUMP HANDLE	TURN UPSIDE DOWN	TURN UPSIDE DOWN	PULL PIN-SQUEEZE LEVER	RUPTURE CARTRIDGE-SQUEEZE LEVER	PULL PIN-SQUEEZE HANDLE	PULL PIN-SQUEEZE HANDLE	RUPTURE CARTRIDGE-SQUEEZE LEVER
RANGE	30' - 40	30' - 40	30' - 40	30' - 40	30' - 40	3' - 8'	5' - 20'	5' - 20'	5' - 20'	5' - 20'
MAINTENANCE	CHECK AIR PRESSURE GAUGE MONTHLY	WEIGH GAS CARTRIDGE ADD WATER IF REQUIRED ANNUALLY	DISCHARGE AND FILL WITH WATER ANNUALLY	DISCHARGE ANNUALLY -RECHARGE	DISCHARGE ANNUALLY -RECHARGE	WEIGH SEMI-ANNUALLY	WEIGH GAS CARTRIDGE-CHECK CONDITION OF DRY CHEMICAL ANNUALLY	CHECK GAS PRESSURE GAUGE AND CONDITION OF DRY CHEMICAL ANNUALLY	CHECK GAS PRESSURE GAUGE AND CONDITION OF DRY CHEMICAL ANNUALLY	WEIGH GAS CARTRIDGE-CHECK CONDITION OF DRY CHEMICAL ANNUALLY

Flammable and Combustible Liquids
Guidelines

A flammable liquid is defined as any liquid whose flash point, the temperature at which vapors can ignite when there is a spark, flame or static electricity, is below 100 degrees F. At higher concentrations and higher temperatures the vapors of the liquid can ignite or explode without a spark. Most flammable liquids are volatile, evaporate quickly and reach a concentration in the air that could lead to an explosion. Some highly volatile flammable liquids are gasoline, acetone and alcohol. Containers with these flammable liquids must be marked with a red label indicating the hazard. To work safely with flammable liquids the three potential hazards: temperature, concentration of vapor and ignition sources must be controlled. A combustible liquid is defined as any liquid whose flash point is at or above 100 degrees F.

- Only approved containers and portable tanks shall be used for storage and handling of flammable and combustible liquids.

- No more than 60 gallons of flammable or combustible liquids shall be stored in any one storage cabinet. No more than three storage cabinets may be located in a single storage area.

- Inside storage rooms for flammable and combustible liquids shall be of fire resistive construction, have self closing fire doors at all openings, 4 inch sills or depressed floors, a ventilation system that provides at least six air changes within the room per hour, and electrical wiring and equipment approved for Class I, Division 1 locations.

- Storage in containers outside buildings shall not exceed 1,100 gallons in any one pile or area. The storage shall be graded to divert possible spills away from building or other exposures, or shall be surrounded by a curb or dike. Storage areas shall be located at least 20 feet from any building and shall be free from weeds, debris and other combustible materials not necessary to the storage.

- **"No Smoking"** signs shall be posted in service and refueling areas.

- Drums containing Class I flammable liquids shall be grounded and bonded before and during dispensing into containers.

- All flammable and combustible liquid wastes shall be kept in fire-resistant, covered containers.

- Appropriate fire extinguishers shall be mounted within 50 feet of outside areas containing flammable liquids and within 10 feet of any inside storage area for such materials.

- Listed Safety containers shall be used for the dispensing of flammable or combustible liquids.

- All spills of flammable or combustible liquids shall be cleaned up promptly.

- All flammable or combustible liquid storage tanks shall be adequately vented to prevent the development of excessive vacuum or pressure as a result of filling, emptying or atmosphere temperature changes.

- All flammable or combustible liquid storage tanks shall be equipped with emergency venting that will relieve excessive internal pressure caused by fire exposure.

- Flammable liquids shall be stored separately from other chemicals, especially reactive such as oxidizers.

- All containers containing a flammable or combustible liquid shall be labeled correctly and clearly.

Foot Protection Guidelines

Foot protection is guarding your toes, ankles, and feet from injury. Manufacturers now offer a wide variety of protective devices for hazards in many industries. Manufacturers also continually update materials and engineering of their products to insure protection from new hazards.

The Occupational Safety and Health Administration (OSHA) have outlined regulations that specify foot protection for the workplace. These regulations can be found in the Code of Federal Regulations, 29 CFR 1910.136.

Types of foot injuries:

Your feet are vulnerable to many types of skin diseases, cuts, punctures, burns, sprains, and fractures, but *sharp or heavy objects falling on the foot are the primary source of injury.* Other hazards include:

- Compression - the foot or toe is squeezed between two objects or rolled over
- Puncture - a sharp object, like a nail, breaks through the sole
- Electricity - a hazard where workers use power tools or electric equipment
- Slipping - surface hazards such as oil, water, or chemicals causing falls
- Chemicals - chemicals corrode ordinary safety soles and can harm your feet
- Extreme heat or cold - insulation or ventilation is required; depends on climate
- Wetness - hazard may be slipping, but also discomfort and even fungal infections in your feet are wet for long periods of time

Many plant operations or manufacturing processes involve a combination of hazards listed above.

Specific types of safety shoes:

Safety boots - rubber or plastic safety boots offer protection against oil, water, acids, corrosives, and other industrial chemicals. They are also available with features like steel-toe caps, puncture resistant insoles, and metatarsal guards. Some rubber boots are made to be pulled over regular safety shoes.

Electric hazard shoes - these are used in areas where employees work on live or potentially live electrical circuits. The toe box is insulated from the shoe so there is no exposed metal. These shoes are most effective when dry and in good repair.

Foundry shoes - foundry shoes are used by welders and molders where there is a hazard from hot splashes of molten metal or flying sparks. Instead of laces they have elastic gores to hold the top of the shoe close to the ankle. This way they can be removed quickly if hot metal or sparks get inside the shoe.

Conductive shoes - this type of protective footwear is used where there is a danger of shock from high voltage. They permit the static electricity that builds up in the body of the wearer to drain off harmlessly into a conductive grounded floor. These shoes must have rubber or cork heels, no exposed metal parts, and a connector (from calf to heel) to pass electricity to the ground.

Non-conductive shoes - unlike conductive shoes, they do not require that the floor be conductive and grounded. They offer protection from the hazards of electric current in live circuits and equipment. Non-conductive shoes have rubber soles and no metal parts so they insulate feet from the ground.

Add-on foot protection - Metatarsal guards and shoe covers can be attached to shoes for greater protection from falling objects. Strap-on wooden-soled sandals can be used for protection against the underfoot hazards of oils, acids, hot water, caustic or sharp objects.

Rubber spats protect feet and ankles against chemicals. Puncture-proof inserts made of steel can be slipped into shoes to protect against underfoot hazards. Strap-on cleats fastened to shoes provide greater protection.

Footwear should always be matched to the job and to the hazards that are encountered there. It is important during the selection and purchases of safety footwear that shoes and boots meet the requirements recommended by the American National Standards Institute (ANSI). OSHA regulations state that safety shoes should meet ANSI standards. ANSI approved footwear will have the ANSI label inside the shoe or boot. The ANSI standard relevant to protective footwear is ANSI Z41-1991.

Forklift Trucks
Guidelines

Forklifts can haul and dump tubs of material, carry containers of molten metal and transport pallets of heavy products. A forklift can be adapted for almost any lifting and transporting task. Forklifts can be dangerous to people and property when operated incorrectly. Most forklift accidents result from operator error, increasing the importance of operator training. Suggested requirements for drivers are: satisfactory vision, hearing and health to perform the job safely, a mature attitude, a good vehicle driving record, a positive safety attitude, and a completion of a forklift operator training course.

- Follow manufacturer's instructions. Do not modify or extend the forks unless approved by the manufacturer.
- When carrying a load drive up a ramp or grade. Never drive down when you are carrying a load. Never make a turn while your forklift is on the ramp. Lower the forks to keep the center of gravity low.
- Always use a proper dock board when loading a vehicle from the dock. Keep the forklift away from the edge of the loading dock.
- Make sure the parking brake is set and the wheels are chocked on the vehicle being loaded.
- Place the forks all the way under the load. Space forks apart so they fit the load being lifted. This will help to maintain proper balance and prevent the load from falling. Never lift a load that appears to be unstable. Use belts to secure the load onto the forks.
- Center the forks beneath the load being lifted. Lifting an un-centered load can cause the load to fall. Tilt the uprights slightly back when raising and carrying a load.
- Do not carry any riders unless the truck is specifically designed for them. Always keep hands and feet inside. Never speed or allow unauthorized persons to drive a forklift.
- Never smoke when refueling or when checking the battery of a forklift. Always turn off the engine when refueling.
- Use a properly secured safety platform when the truck is to be used as a lifting device.
- Never carry loads that obstruct your view.
- When the forklift is parked, fully lower the forks, put the controls in neutral, turn off the engine, set the parking break and remove the key.
- When turning, reduce your speed and maneuver carefully.
- Stay a safe distance away from other forklifts. Never drive side by side.
- At blind corners, stop the forklift and sound the horn.
- Know where low clearances, pipes, sprinklers or low doorways are located.
- A complete inspection of the forklift should be made prior to any operation of the unit.

If you find anything wrong, report it to your supervisor or maintenance department.

Forklift Operator Training Guidelines

Powered industrial truck (forklift) accidents cause approximately 100 fatalities and over 30,000 serious injuries annually. Many (estimated 20-25 percent) of these accidents are partially or wholly caused by inadequate training.

Employees should not be allowed to operate powered industrial trucks until they receive appropriate training. The training should be:

- Provided by a person with the knowledge, training, and experience to train operators and evaluate their competence.
- Specific to the type of powered industrial truck(s) the employee will operate.

Training Methods

The training should consist of a combination of:

- Formal instruction (e.g., lecture, discussion, interactive computer learning, written material)
- Practical training (demonstrations and exercises performed by the trainee). Trainees, however, must only operate powered industrial trucks when under direct supervision of the trainer, and where such activity does not endanger the trainee or other persons.
- Testing (evaluating the operators proficiency in operating forklifts in the workplace)

Training Program Content

Initial training program content should include:

- Truck related topics
- Work related topics

Truck Related Topics

- Operating instructions, warnings, and precautions
- Differences from automobile
- Controls and instrumentation
- Engine or motor operation
- Steering and maneuvering
- Visibility
- Fork and attachment adaptation, operation, use
- Vehicle capacity and stability
- Vehicle inspection and maintenance the operator will be required to perform
- Refueling/Charging/Recharging batteries
- Operating limitations
- Other instructions, etc.

Work Related Topics

- Surface conditions
- Composition and stability of loads
- Load manipulation, stacking, unstacking
- Pedestrian traffic
- Narrow aisles and restricted areas
- Operating in hazardous (classified) locations
- Operating on ramps and sloped surfaces
- Potentially hazardous environmental conditions
- Operating in closed environments or other areas where poor ventilation or maintenance could cause carbon monoxide or diesel exhaust build-up

Avoiding Duplicative Training

If an operator has previously received training in a topic listed above, and the training is appropriate to the truck and working conditions encountered, additional training in that topic is not required if the operator has been evaluated and found competent to operate the truck safely.

Refresher Training

Refresher training is required when:

- Employee is observed operating forklift in unsafe manner
- Accident or “near miss” occurs
- Evaluation indicates need for refresher training
- Different type of powered industrial truck introduced into workplace
- Physical conditions in the workplace change

An evaluation of each powered industrial truck operator’s performance must be performed:

- After initial operator training
- After refresher training, and
- At least once every three years

Operator Certification

OSHA standard 1910.178 requires that employers certify that operators of powered industrial trucks have been trained and their proficiency evaluated. Proof of certification must be provided, and must include:

- Name of the operator
- Date of training
- Date of evaluation
- Identify of person(s) performing the training or evaluation

Grinders
Guidelines

- Adjust the work rest and keep it within 1/8 inch of the wheel. Keep the adjustable tongue on the top side of the grinder adjusted to within 1/4 inch of the wheel.
- Side guards should cover the spindle, nut, flange and 75% of the wheel diameter.
- Bench and pedestal grinders should be permanently mounted.
- Goggles and face shields should always be worn when grinding.
- The maximum RPM rating of each abrasive wheel should be compatible with the RPM rating of the grinder. Before abrasive wheels are mounted they should be visually inspected and ring tested.
- Fixed or permanently mounted grinders should be connected to their electrical supply system with metallic conduit or other permanent wiring method and each should have an individual on and off switch.
- Dust collectors and powered exhausts should be provided on grinders used in operations that produce large amounts of dust.
- Splash guards should be mounted on grinders that use coolant to prevent the coolant from reaching the employees.
- Maintain good housekeeping around grinders.

Grinder Checklist

Type _____ **RPM** _____

Size _____ **Peripheral Speed** _____

Wheel Guard:	Securely fastened	_____
	Properly aligned	_____
Face Shield:	Clean	_____
Work Rest:	Within 1/8 inch of wheel	_____
	Securely clamped	_____
Frame:	Securely mounted	_____
	No vibration	_____
Wheel Face:	Well lighted	_____
	Dressed evenly	_____
Flanges:	Equal size	_____
	Correct diameter	_____
Speed:	Correct for wheel mounted	_____
Guard for Power Belt or Drive:	In place	_____

Date _____ **Inspected By:** _____ **Dept.:** _____

Hand Safety
Guidelines

Sources of injuries:

- Burns
- Cuts
- Electrical shock
- Absorption of chemicals
- Pinching
- Crushing
- Cold
- Vibration
- Repetitive motion

- Analyze the work place for hazards to the hands. Look at each job and consider the possible hazards to the hands.

- Make sure all tools and machines are well maintained. Make sure all guards are in place.

- Employees must be properly trained in the use of the tools and machines in their area.

- Determine the proper protective equipment and make sure it is available to all employees who need it. Reinforce it by developing a company-wide hand protection policy.

Preventing hand injuries:

- Use protective gloves or other protection whenever necessary. There are gloves to protect against heat, cold, sharp objects, chemicals, electricity and a wide variety of other hazards.

- Gloves should not be worn around tools and machinery with rotating or moving parts, such as grinders, drills, lathes or milling machines.

- Watches, rings, bracelets, or other jewelry should be removed and loose fitting clothing avoided.

- Use tools and equipment **only** for the job they were designed for.

- The work place should be clean and well organized, and the tools and equipment well maintained.

- Tools and equipment should have their guards in place.

First Aid for Hand Injuries
Guidelines

All employees should know:

- What to do in the event of an injury until help arrives.
- Name of the person who is trained in first aid.

The following is a list of basic first aid procedures for various types of hand injuries. Each organization may have first responder procedures and policies that differ from those listed.

Bleeding

- Control bleeding by gently applying direct pressure with a dry, sterile dressing. If it becomes saturated, do not remove it. Add another dressing.
- If possible, wear latex gloves or use other methods to protect against transmission of infection.
- Do not remove any impaled objects. Immobilize the object instead.
- Seek medical attention immediately.

Fractures

- Symptoms: swelling, deformity, pain and tenderness, loss of use.
- Avoid moving the injured hand if at all possible. Check for symptoms.
- Control bleeding, but do not attempt to push protruding bones back beneath the skin.
- Seek medical attention immediately.

Amputations

- Control bleeding by applying direct pressure. Elevate extremity.
- Contact emergency medical service immediately.
- Recover and clean amputated body part by rinsing with water.
- Wrap amputated body part with sterile gauze or a dry, clean cloth, put in a waterproof container, such as a plastic bag, and place on a bed of ice. Transport to hospital with victim.

Shock

- Symptoms: cold, clammy, pale skin; quick, weak pulse; rapid, shallow breathing; nausea or vomiting.
- Contact emergency medical service immediately.
- Speak calmly to the injured employee.
- Ask the employee to lie down.
- Check for head, neck, spine and abdominal injuries.
    - If there is none, raise the employee's feet a few inches off the ground by placing a blanket or pillow under their feet.
    - If there is none, and the employee has vomited, turn the employee on their side and clear their mouth.
- Keep the employee warm, but not hot.
- To make breathing easier, loosen tight clothing.
- Keep the employee calm. Reassure them that they will be OK and that help is on the way.
- Keep other employees away if they are upsetting the victim.

Hearing Safety Guidelines

- Hearing protection must be worn in areas where sound levels exceed 85 DBA.
- Wear proper ear plugs for low level noise abatement.
- Ear muff hearing protection, along with ear plugs, may be needed in high level noise areas.
- Keep hearing protection clean and fit for use.
- Check ANSI Standard S 3.19 Method for the Measurement of Real-Ear Protectors and Physical Attenuation of Earmuffs to determine the efficiency of a specific device for a given noise exposure.
- Sound absorbing materials can be used to isolate the noise source helping to prevent the spread of noise.
- Altering or enclosing equipment or using quieter work processes can reduce overall noise levels.

Hoists, Cranes, &Scissor Lifts
Guidelines

These are the suggested general guidelines for hoists and cranes. Your business may require additional safety guidelines to meet your specific safety needs.

The proper installation, operation, testing and maintenance of cranes and hoisting devices are a continuing responsibility of the owner/user. All hoists and cranes should be inspected per OSHA guidelines. This includes annual, as well as daily pre-use inspections. These should be documented, signed, and dated. Special attention should be paid to load hooks, ropes, brakes and limit switches.

- The safe load capacity of each hoist should be clearly posted on the hoist body.
- All employees working with hoisting apparatus should be trained on safe lifting/rigging practices and operating rules. The operator is responsible for compliance to safe procedures and to maintaining safe operating conditions of the lifting equipment.
- A load should be picked up only when it is directly under the hoist.
- All hoists should be attached to their supports and have adequate design factor for the maximum loads to be hoisted.
- All lifting hooks will have operating safety latches.
- All slings will be inspected prior to use.
- Each control cord should be nonconductive, unless they are grounded.
- Each control cord should be clearly marked "*hoist" or "lower."*
- Equipment should be kept away from energized power lines.
- When a crane is being used, standard hand signals should be posted at the site. Employees operating the crane should be trained in the hand signals, as per the construction industry guidelines.
- Only trained and certified employees should be allowed to operate any hoisting or crane device.
- Modifications to the equipment shall not be made without written approval from the manufacturer.
- Lift controls and equipment shall be tested/inspected before each use.
- Only authorized persons are allowed to operate the equipment.
- Load limits shall not be exceeded.
- Equipment will have a working back-up alarm or use a spotter when backing.
- Minimum clearance between electrical lines and any part of the equipment is at least 10 feet.
- Employees shall stand firmly on the floor and shall not climb on the rails or the edge of the basket.
- Approved fall restraint system shall be worn while working from an aerial lift.
- Fall restraint system must be attached to the boom or basket.
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Ladders
Guidelines

A ladder is an appliance usually consisting of two side rails joined at regular intervals by crosspieces called steps, rungs or cleats, on which a person may step in ascending or descending. There are variations called step ladder, single ladder, extension ladder, fixed ladder, job-made ladder, platform ladder, and sectional ladder. Ladders are constructed of wood, metal, aluminum or fiberglass.

Proper Selection

- Select a ladder of proper duty rating to support combined weight of user and materials.
- Ladders are available with duty ratings of 200, 225, 250, and 300 lbs.
- Select a ladder of proper length to safely reach the desired height.

Inspection Before Each Use

- Inspect thoroughly for missing or damaged components. Never use a damaged ladder and never make temporary repairs.
- Inspect thoroughly for loose fasteners. Make sure all working parts are in good working order. Lubricate if necessary.
- Clean ladder of all foreign material (wet paint, mud, snow, grease, oil).
- Destroy ladder if damaged, worn, or exposed to fire or chemicals. Bring back the ladder to the shop, tag for inspection; put a note on your daily report and management will make the decision of destruction.

Consider Before Each Use

- Metal ladders conduct electricity. Keep away from electrical circuits or wires.
- Consult manufacturer for use in chemical or other corrosive environments.
- Use ladder only as outlined in instructions. Ladders are designed for one person only.
- Do not use in high winds or during a storm.
- Keep shoes clean. Leather shoes should not be used.
- Never leave ladder set-up and unattended.

Proper Setup and Use

- Use help in setting up ladder if possible.
- Do not place on unstable, loose or slippery surfaces. Do not place in front of unlocked doors. Ladders are not intended to be used on scaffolds.
- Secure base section before raising ladder to upright position. Do not raise or lower with fly section extended.
- Extend and retract fly section only from the ground when no one is on the ladder.
- Do not overextend. A minimum overlap of section is required as follows:
  - Ladder size up to and including 32 feet---3 foot overlap
  - Over 32 feet up to and including 36 feet---4 foot overlap
  - Over 36 feet up to and including 48 feet---5 foot overlap
  - Sizes over 48 feet---6 foot overlap
- Position ladder against upper support surface. Make sure ladder does not lean to the side. Ladder must make a 75 degree angle with the ground.
- Erect ladder approximately 3 feet beyond upper support point.
- Check that top and bottom of ladder are properly supported. Make sure rung locks are engaged before climbing.
- Face ladder when climbing up or down. Maintain a firm grip. Use both hands in climbing.
- Keep body centered between side rails. **Do not over reach.** Get down and move ladder as needed.
- Fly section must have safety shoes if used as a single ladder.

Proper Care and Storage

- Hang ladder on racks at intervals of 6 feet for support.
- Never paint a wooden ladder. Treat with wood preservative.
- Protect wooden ladder from exposure to the elements, but allow good ventilation. Keep away from heat and moisture.

LADDER SAFETY

- Ladder rungs, cleats, and steps shall be parallel, level, and uniformly spaced when the ladder is in position for use.
- When portable ladders are used for access to an upper landing surface, the ladder side rails shall extend at least 3 feet (.9 m) above the upper landing surface to which the ladder is used to gain access; or, when such an extension is not possible because of the ladder's length, then the ladder shall be secured at its top to a rigid support that will not deflect, and a grasping device, such as a grab rail, shall be provided to assist employees in mounting and dismounting the ladder. In no case shall the extension be such that ladder deflection under a load would, by itself, cause the ladder to slip off its support.
- Ladders shall be maintained free of oil, grease, and other slipping hazards.
- Ladders shall not be loaded beyond the maximum intended load for which they were built, or beyond their manufacturer's rated capacity.
- Ladders shall be used only for the purpose for which they were designed.
- Non-self-supporting ladders shall be used at an angle such that the horizontal distance from the top support to the foot of the ladder is approximately one-quarter of the working length of the ladder (the distance along the ladder between the foot and the top support).
- Wood job-made ladders with spliced side rails shall be used at an angle such that the horizontal distance is one-eighth the working length of the ladder.
- Fixed ladders shall be used at a pitch no greater than 90 degrees from the horizontal, as measured to the backside of the ladder.
- Ladders shall be used only on stable and level surfaces unless secured to prevent accidental displacement.
- Ladders shall not be used on slippery surfaces unless secured or provided with slip-resistant feet to prevent accidental displacement. Slip-resistant feet shall not be used as a substitute for care in placing, lashing, or holding a ladder that is used upon slippery surfaces including, but not limited to, flat metal or concrete surfaces that are constructed so they cannot be prevented from becoming slippery.
- Ladders placed in any location where they can be displaced by workplace activities or traffic, such as in passageways, doorways, or driveways shall be secured to prevent accidental displacement, or a barricade shall be used to keep the activities or traffic away from the ladder.
- The area around the top and bottom of ladders shall be kept clear.
- The top of a non-self-supporting ladder shall be placed with the two rails supported equally unless it is equipped with a single support attachment.
- Ladders shall not be moved, shifted, or extended while occupied.
- Ladders shall have nonconductive side rails if they are used where the employee or the ladder could contact exposed energized electrical equipment.
- The top or top step of a stepladder shall not be used as a step.
- Cross-bracing on the rear section of stepladders shall not be used for climbing unless the ladders are designed and provided with steps for climbing on both front and rear sections.
- Ladders shall be inspected by a competent person for visible defects on a periodic basis and after any occurrence that could affect their safe use.
- Portable ladders with structural defects, such as, but not limited to, broken or missing rungs, cleats, or steps, broken or split rails, corroded components, or other faulty or defective components, shall either be immediately marked in a manner that readily identifies them as defective, or be tagged with "Do Not Use" or similar language, and shall be withdrawn from service until repaired.
- Fixed ladders with structural defects, such as, but not limited to, broken or missing rungs, cleats, or steps, broken or split rails, or corroded components, shall be withdrawn from service until repaired. The requirement to withdraw a defective ladder from service is satisfied if the ladder is either:
    a. Immediately tagged with "Do Not Use" or similar language;
    b. Marked in a manner that readily identifies it as defective;
    c. Or blocked (such as with a plywood attachment that spans several rungs).
- Ladder repairs shall restore the ladder to a condition meeting its original design criteria, before the ladder is returned to use. Single-rail ladders shall not be used.
- When ascending or descending a ladder, the user shall face the ladder.
- Each employee shall use at least one hand to grasp the ladder when progressing up and/or down the ladder.

- An employee shall not carry any object or load that could cause the employee to lose balance and fall.

Material Handling
Guidelines

- Aisles and doorways should provide adequate clearances.
- Aisles and doorways should be designated, permanently marked and kept clear to allow unhindered passage.
- Hand operated and motorized vehicles should be adequate for the load and operation.
- All dock plates and loading ramps should be constructed and maintained with sufficient strength to support the required load.
- Maintain hand operated and motorized vehicles in a safe operating condition.
- Pallets should be of the proper size and strength to the imposed load.
- Shelving should be maintained and of proper strength to support the required load.
- Hooks with safety latches should be used when hoisting materials. Latches will be in place on all hooks, eliminating the hook throat opening.
- Securing chains, ropes and slings should be adequate to support the required load.
- Keep floors clean, dry and free of oil.
- Practice proper lifting techniques.
- Use hand operated or motorized vehicles to move heavy loads.
- Employees should be trained in the proper operation of material handling equipment.
- Rigging equipment for material handling shall be inspected prior to use and on each shift and as necessary during its use to ensure that it is safe.
- Defective rigging equipment shall tagged as Do Not Use and be removed from service immediately.
- Rigging equipment shall not be loaded in excess of its recommended safe working load.
- Rigging equipment, when not in use, shall be removed from the immediate work area and stored properly.
- Tag lines shall be used as needed when handling equipment loads.
- No employee will be allowed under a suspended load for any reason.

Office Safety Guidelines

- Each office should have fire extinguishing equipment available and a training program on how to use extinguishers.
- An evacuation plan should be in place with periodic fire drills and training.
- Inspect the work place using an inspection form.
- Exit signs should be lighted and clearly visible and emergency lighting should be installed.
- Aisles should be kept clear to allow for easy travel and exit in the event of an emergency.
- Doors to stairwells and to exits should not be blocked. These areas should be clearly marked.
- Store inks, solvents and any other flammable or combustible liquid properly and use in small amounts only.
- Trash and rubbish should be properly stored and discarded daily.
- Machines should be grounded and the use of extension cords should be avoided.
- Non-carpeted walking surfaces should be swept and mopped frequently to prevent grease and dirt buildup. Carpeted floors should be vacuumed regularly.
- Spills should be cleaned immediately.
- Use signs or barriers to warn of wet floors.
- Loads of 40 pounds or more should not be lifted manually. Proper lifting techniques should be utilized.
- Chairs should never be used in place of a ladder.
- Chairs should be stable and have at least a 5 point base.
- Adjustable seating should be used for different builds of people and for different tasks.
- Armrests for chairs should be low and short enough to fit the chair under the work surface and allow the user to get close enough to the work surface to use the chair backrest.
- Thin keyboards should be used to minimize wrist deviation or keyboard palm rests should be used.
- A short rest break should be encouraged after each hour of video display work is performed.
- A physician approved first aid kit should be available for emergency use.
- Work areas should be well illuminated; however, glare should be reduced by lowering the lighting.
- Window glare can be reduced by providing drapes or blinds.

- Items stored on racks and shelves should not be overhanging or protruding so as to cause personal injury.
- Available heating, air conditioning and ventilation systems should be kept in proper working order.
- Do not leave file drawers open and unattended.

Portable Hand Tools
Guidelines

- The correct tool should be utilized for the job and used in a correct manner.
- If a job requires excessive force or bending of the wrist creating stress, a powered tool or a differently shaped tool should be used.
- Tools should be kept in good working condition. Damaged, worn or defective tools can cause injuries and should not be used.
- Keep tools in a safe place. Do not leave tools on the floor or above work areas.
- Sharpened tools should not be carried in pockets or left in tool boxes with cutting edges exposed.
- Appropriate personal protective equipment, such as safety goggles and gloves, should be worn to protect against hazards that may be encountered while using hand tools.
- Keep impact tools, such as chisels and punches, free of mushroomed heads.
- Keep wooden handles free of splinters or cracks, and assure a tight connection between the tool head and the handle.

Power Tools
Guidelines

- Electric power operated tools should either be approved double insulated, be properly grounded, or used with ground fault circuit interrupters.
- Power tools should not be used until proper instruction has been given and authorization given by a supervisor.
- Guards on machinery and equipment should not be removed without authorization.
- The power tool should be off and motion stopped before the tool is set down.
- Disconnect the tool from power source before changing bits or blades, or attempting any repair or adjustment. Never leave a running tool unattended.
- Inspect electrical extension cords and other wiring to be certain they are properly insulated and grounded. Do not use frayed or damaged cords.
- A power tool must never be used with a safety guard removed.
- All fixed power driven woodworking tools should be provided with a disconnect switch that can either be locked or tagged in the off position.
- Only trained employees will be allowed to operate power actuated tools. All power actuated tools will be tested daily before use and defects discovered before and during use will be corrected. Tools will not be loaded until immediately before use.
- Never operate power actuated tools in, near or around water.

Safe Backing
Guidelines

- Whenever possible, avoid backing situations. Find a parking spot that will allow you to leave without backing.
- Avoid blocking the rearward, inside view with equipment and stock. Does the cargo safety cage block the view? How high is the load stacked?
- Increase the size of the side mirrors to gain a larger, clearer picture of hazards behind the vehicle.
- Install a wide-view, convex mirror on the upper rear driver's side of the vehicle.
- Drivers should walk completely around the vehicle, looking for dangers. Watch for overhangs too.
- When preparing to back, roll down the window and turn off the radio. The driver should check all mirrors and look over both shoulders before starting to back. Sound the horn twice to provide further warning for pedestrians. Back up s-l-o-w-l-y!
- If a sE-Con Electric, Incd person is available, use this person to guide the backing vehicle. The guide should stand at the left rear driver's side of the vehicle (if room) and use full motion arm signals . . . not hand signals . . . to assist the driver. If the driver loses visual contact of the ground guide, backing should stop at once.
- Add dashboard stickers highlighting, **"Look Before You Back"**.
- Provide paycheck stuffers and posters covering safe driving tips.
- Add backup alarms to vehicles.
- Hold safety meetings covering safe/unsafe driving techniques and driving rules.
- Provide orange traffic cones to be set out behind the vehicle, if backing will be required upon leaving.
- Add a reward/recognition program for safe drivers.
- Set up an obstacle driving course in a parking lot and hold a "driving rodeo" with score sheets and trophies for the best drivers.
- If a driver has trouble backing, have his/her eyes tested for depth perception.

Safe Lifting
Guidelines

Most back injuries are the result of improper lifting techniques. The worst lifting situations occur when the body is extended over the load. Keep the back straight to shift the weight of the load being lifted onto powerful leg muscles, thus reducing the lever effect caused when the body is extended over the load.

- Keep in good physical condition. Difficult lifting tasks should not be attempted if not accustomed to vigorous exercise.
- Think before lifting. Make certain there is adequate space and clear aisle ways. Also, plan for a place to set the load down.
- Maintain a good grip on the load by using the palms of the hands.
- Lift with the load close to the body. The closer the load is to the spine, the less force it exerts on the back. This is one of the most important rules in lifting.
- Test the load before handling it. If it appears to be too heavy or bulky, get help or some type of mechanical aid.
- Place the feet close to the load. The feet should be far enough apart for stability, have one foot slightly ahead of the other and pointed in the direction of movement.
- Tighten stomach muscles. Abdominal muscles support the spine when lifting, offsetting the force it exerts on the back.
- Lift with your legs. The stronger leg muscles are better suited for lifting than the weaker back muscles.
- Keep the back straight, head up whether lifting or putting down the load. Avoid twisting, it can cause injury.

Think Before You Lift

Mental Lifting - Lift the load **twice**, by first lifting the load mentally.

Find a Better Way - Mechanical help can be used to avoid heavy loads, twisting motions, repetitive motions, bulky loads, vertical lifting and uneven surfaces. Pushcarts, conveyors, two wheeled carts, hoists, or forklifts are good examples of material handling devices that can be used.

Push, Don't Pull - Twice as much can be pushed than pulled, while running less risk of back injury.

Watch Your Footing - Wear proper footwear, take small steps, go slowly and clear a proper pathway free from tripping hazards.

Hand Safety When Lifting

- Inspect materials for slivers, jagged or sharp edges, burrs, rough or slippery surfaces.
- Grasp the object with a firm grip.
- Keep fingers away from pinch and shear points, especially when setting down materials.
- When handling pipe, lumber or other long objects, keep hands away from the ends to help prevent them from being pinched.
- Wipe off greasy, wet or dirty objects before trying to handle them.
- Keep hands free from oil and grease.

Scaffolding
Guidelines

- Scaffolds, by their very nature, present a danger of falling or being struck by something falling. Because this possibility exists, certain safety precautions must be kept in mind when working on or around scaffolds.

- When erecting a scaffold be sure it is capable of supporting at least four times the maximum load, including the weight of materials, workers and the scaffold itself. The height must not exceed four times the minimum base dimensions as well. Footings should be sound and rigid.

- Check the scaffolding for damage prior to use. Damaged scaffolding should not be used.

- Planking should be at least 2x10's, of scaffold grade, placed together to help keep materials and tools from falling. Choose planks that are straight grained and free of shakes, large or loose knots and other defects. Extend the planks beyond the center line of supports from 6 to 12 inches, and cleat or otherwise fasten so the planking stays in place.

- Always use a safe means of access when climbing a scaffold, such as a fixed or portable ladder, ramp, runway or stairway. Climbing on cross braces is never acceptable.

- While using a mobile scaffold, be certain to lock the wheels before beginning use. Do not ride or allow anyone to ride on scaffolding while it is being moved, unless the scaffolding is constructed of a specific alloy designed for occupied horizontal travel. All material and equipment should be removed or secured before moving the scaffold. Do not try to move a rolling scaffold without sufficient help. Be aware of holes in floors and overhead obstructions.

- While working on a scaffold, do not allow tools and materials to accumulate in a manner that creates a hazard.

- While working on a scaffold 10 feet or more above the ground, it must be equipped with guardrails including a toe board. Wear a safety belt and life line if a railing is impractical. When working near overhead electrical power lines, a minimum of 10 feet of clearance must be maintained. (Clearance will increase depending on voltage)

- Always wear hard hats and other appropriate personal protective equipment.

SCAFFOLDS
OSHA 1926.450

1. TRAINING REQUIREMENTS
    a. Each employee who performs work while on a scaffold will be trained by a person qualified in the subject matter to recognize the hazards associated with the type of scaffold being used (Qualified Person) and to understand the procedures to control or minimize those hazards. The training shall include the following areas, as applicable:
        i. The nature of any electrical hazards, fall hazards and falling object hazards in the work area;
        ii. The correct procedures for dealing with electrical hazards and for erecting, maintaining, and disassembling the fall protection systems and falling object protection systems being used;
        iii. The proper use of the scaffold, and the proper handling of materials on the scaffold;
        iv. The maximum intended load and the load-carrying capacities of the scaffolds used;
        v. The use of tags placed on equipment to designate unsafe conditions or equipment. That equipment must not be used until the tags are removed once the Competent Person determines the unsafe conditions have been relieved.
        vi. Any other pertinent requirements
    b. Each employee who is involved in erecting, disassembling, moving, operating, repairing, maintaining, or inspecting a scaffold trained by a competent person to recognize any hazards associated with the work in question. The training shall include the following topics, as applicable:
        i. The nature of scaffold hazards;
        ii. The correct procedures for erecting, disassembling, moving, operating, repairing, inspecting, and maintaining the type of scaffold in question;
        iii. The design criteria, maximum intended load-carrying capacity and intended use of the scaffold;
        iv. Any other pertinent requirements
    c. If the employer has reason to believe that an employee lacks the skill or understanding needed for safe work involving the erection, use or dismantling of scaffolds, the employee will be retrained by a competent person such that the requisite proficiency is regained. Retraining is required in at least the following situations:
        i. Where changes at the worksite present a hazard about which an employee has not been previously trained; or
        ii. 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; or
        iii. Where inadequacies in an affected employee's work involving scaffolds indicate that the employee has not retained the requisite proficiency.
2. GENERAL REQUIREMENTS
    a. Scaffolds shall be designed by a Qualified Person and shall be constructed and loaded in accordance with that design.
    Note: Qualified means one who, by possession of a recognized degree, certificate, or professional standing, or who by extensive knowledge, training, and experience, has successfully demonstrated their ability to solve or resolve problems related to the subject matter, the work, or the project.
    b. A Competent Person must inspect all scaffolding:
    Note: Competent Person means one who is capable of identifying existing and predictable hazards in the surroundings or working conditions which are unsanitary, hazardous, or dangerous to employees, and who has authorization to take prompt corrective measures to eliminate them.
        i. On a daily basis, Prior to the beginning of a work shift or use of the scaffold.
        ii. After any event that could cause the scaffold to be unstable.
        Weather conditions
        Disturbance in the soil
        Job step sequences.
        Contact with other equipment.
        Etc.

Any unsafe condition or equipment discovered either during inspection or during use must be tagged by the Competent Person, taking the scaffolding immediately out of service. An example of tags used is at the end of this procedure.

c. Scaffolds shall be erected, moved, dismantled, or altered only under the supervision and the direction of a Competent Person qualified in scaffold erection, moving, dismantling or alteration. Only experienced and trained employees selected for such work by the competent person shall perform such activities. Only qualified and competent persons are allowed to modify scaffolding systems. Modifications performed by non-qualified and competent persons will result in disciplinary action being taken, up to and including termination of employment.
d. Scaffolds and all its' components shall be capable of supporting, without failure, its own weight and at least 4 times the maximum intended load applied or transmitted to it.
e. All Scaffold components shall be in place prior to employee use.
f. All damaged scaffold components shall be repaired or replaced immediately.
g. The footings for scaffolds shall be sound, rigid and capable of carrying the intended load. Unstable objects such as loose brick, barrels or concrete blocks shall not be used to support scaffolds or planks.
h. Supported scaffolds with a height to base width ratio of more than four to one (4: 1) shall be restrained from tipping by guying, trying, bracing, or equivalent means.
i. Guardrails and toe boards should be installed on all open sides and ends of platforms more than 6 feet above the ground floor.
j. Guardrails should be 2x4 inch or equivalent, approximately 42 inches high and capable of supporting 200 pounds of downward pressure with a mid-rail. Supports shall be at intervals not to exceed 8 feet. Toe boards should be a minimum of 4 inches in height.
k. The working level of all scaffolds shall be fully planked.
l. All Scaffolding members shall be "Scaffold Grade". All planks shall be stamped or certified by a recognized grading agency.
m. All planking shall overlap 12 inches or be secured from movement.
n. Scaffold planks shall extend at a minimum 6 inches but no more than 12 inches over their end supports.
o. Employees shall be prohibited from working on scaffolds covered with snow, ice, or other slippery material except as necessary for removal of such materials.
p. Debris shall not be allowed to accumulate on platforms.
q. 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.
r. Access shall be provided for all platforms 2 feet above or below the point of access.
s. Where persons are required to work or pass under the scaffold, scaffolds shall be provided with a screen between the toe board and the guardrail, extending along the entire opening, consisting of # 18 gauge U.S. standard wire 112 inch mesh, or the equivalent.
t. Tag lines shall be required for all material being hoisted onto scaffolds.

WELDED FRAME SCAFFOLD

The erection, inspection, use, and dismantling of scaffolds must be thoroughly planned by a Competent Person so the scaffolds will function as intended. To build a scaffold that is safe for employees to work on, all materials must be provided to correctly assemble the scaffold. Then erect is straight, level, and plumb on firm footing. All heights over 125 feet must be designed by a Registered Professional Engineer Proper access must be provided. Ladders or Stair systems shall be provided for all platforms 2 feet below or above.

1. Foundation

   The foundation must be capable of supporting the desired load including the building materials.

   Mud sills are required on soil or soft footing.

   Base plates shall be placed under all legs on any scaffold.

   When a scaffold is erected on uneven ground, adjusting screws shall be used in all legs.

   Building materials such as brick, or loose fill such as soil shall not be permitted to level scaffold on uneven ground.

2. Frames
   Frames shall be vertically aligned on the coupling or stacking pins.

   Frame sections shall be pinned together to prevent them from separating, or secured together in another manner.

   When outrigger platforms are required, position the base frames so the platform shall be within 3 inches of the wall when erected.

3. Bracing
   All vertical frame members shall be connected at regular intervals with cross braces.

   Where a brace has been left out to allow for feeding materials onto the scaffold, a removable guardrail shall be provided and kept in place during all other activities.

   Cross braces are not to be substituted for guardrails at any time.

   Cross braces are not to be used as a way to climb any scaffold.

4. Securing the Scaffold
   Secure the scaffold throughout its entire length and height. This can be done either by tying it solidly to the building structure, or by providing an alternative means of keeping the scaffold upright, such as guying it down or bracing it to existing supports.

   At a minimum, secure the scaffold every 30 feet horizontally and 26 feet vertically.

5. Planking
   Fully plank the scaffold to the full width of the platform employees will work on.
   If the platform cannot be fully planked, then erect the guardrails around the area that is planked.

   Planking must be 2 inches x 10 inches or wider and made of:
   - Scaffold grade wood plank
   - Or manufactured metal plank

   All wood planks shall have cleats attached under the ends of the plank or a comparable method to prevent it from sliding. It should extend at least 6 inches over the end supports.

   Continuous runs of planking shall overlap at least 12 inches and be secured in place.

6. Loads
   All loads are considered heavy. Heavy duty scaffolds require components that are rated to support at least 75 pounds per square foot of work platform.

   Material loads shall be evenly distributed on platforms and not concentrated in one small area. Pallet loads of heavy materials such as block, brick, etc., may need to be broken down to prevent overloading the platform.

   Scaffolds, including accessories, shall be designed, constructed and erected to safely support four times the maximum rated load.

   Outrigger platforms shall be used as a working platform for personnel only. No loads shall be stored on them. When stocking material, the load's center of gravity shall be located on the main scaffold assembly.

   When covering the scaffold with visqueen, tarps, or other material to protect from weather conditions, the following requirements shall be met:
   - Manufacturer's data or maximum load capacity for this type of scaffold in use. This calculation must include all anticipated live and dead loads. A 4: 1 safety factor must be maintained.
   - The manufacturer's recommendations as to any/all necessary precautions such as:

   1. Extra internal bracing or support
   2. Extra external bracing to the structure or wall to prevent tipping
   3. Special securing requirements of the covering material to the scaffold

4. *Wind restrictions*
5. Other as required

7. Guardrails and Toe Boards
   Toprail, midrail, and toe boards are required on all frame scaffold platforms where employees will work. These components shall be installed on platforms located 6 feet and higher above the walking surface. *Note:* If there is a possibility that the craft worker could fall below the walking level, then the distance is measured to the lowest level.

   Support posts for guardrails must be positioned at no more than 8-foot intervals.

   Locate toprails 42 inches above the work platform.

   Outrigger platforms require guardrails positioned across the ends of the platforms.

   Body harness tie-off system shall be used by employees when work activities expose them to unguarded areas on scaffolds.

8. Controlled Access Zone
   A controlled access zone shall be established whenever a masonry wall is being constructed. The access zone must conform to the following:

- The controlled access zone must be established prior to the start of construction of the wall.
- The zone must be equal to the height of the wall to be constructed, plus 4 feet and shall run the entire length of the wall.
- The zone shall be restricted to entry by employees actively engaged in constructing the wall. No other employees shall be permitted to enter the zone.
- The zone shall be established on both sides of the wall when needed.
- The zone shall be marked in a way that is obvious to all craft workers.
- The zone shall stay until the wall is braced and the scaffolding has been removed.
- During high wind conditions, all craft workers must leave the zone.

9. ACCESS TO SCAFFOLDING
   Tubular welded frame scaffolds shall be designated to provide a safe means of access for employees to move to and from work platforms.

10. Requirements
    Climbing scaffold frames without an access ladder or stairway is prohibited.

    Acceptable methods for providing access to the scaffold from the ground include:
    - Ladders used on single frame scaffolds no more than two tiers high (l0 to 12 feet).
    - Extend the ladder 36 inches above landing and secure. *Note:* Climbing through or over the guardrails is prohibited.
    - Scaffold frames with built-in ladders or scaffold systems with ladders designed to be added on used up to three tiers high (15 to 18 feet). These ladders must meet ladder requirements in 29 CFR Subpart 'X'.
    - Use of *internal scaffold stairway systems* which are mandatory on any scaffold higher than three tiers (15 to 18 feet). They are recommended for any scaffold. One stairway system shall be installed for every 100 horizontal feet of multi-section scaffold.

    Where the scaffold frames have built-in ladders, or scaffold systems that are designated to have ladders clamped on, they shall:
    1. Have a fall protection system in place when used for climbing 24 or more feet above the ground.
    2. Have a documented inspection before use by a Competent Person. *Note:* Ladders should be carefully checked during the daily inspection. Wherever the scaffold is to be accessed from adjacent structures at various levels and when a fall hazard exists, properly constructed access ramps or walkways with fall protection installed shall be provided.

FORM SCAFFOLDS
Forms used for concrete placement require employees to move around on wall and column forms. During the cycle of positioning on a form, stripping a form, and moving forms, employees move about repeatedly.

Form design and construction should include features that provide for safe movement of employees who are working on the forms. Contact Form Supply Engineer for information.

1. Standard Features
   Provide fully planked work platforms, minimum of 18 inches in width.

   Secure planks to platforms.

   Guard all open sides with toprails, midrails and toe boards.

   Guard all open platform ends.

   Provide ladders to platform areas to avoid workers climbing the form structure.

   Create tie-off anchors if none exist.

   Employees on wall forms shall not step up on the wall without being tied-off.

   There shall be a minimum safety factor of four times the maximum intended load.

   All general requirements found in Chapter 10.A will be followed.

2. Gang Forms
   Gang forms that utilize more than one work platform require additional features.
   - Mount access ladders so employees can climb from one platform level to another.
   - Provide hinged hatch type doors in platforms that cover holes, yet allow access to and from ladders below.
   - Whenever possible, secure ladders to the form so employees must face away from the form while climbing the ladders. This way, if an employee slipped while on ladder, they would fall back toward the form, rather than away from it.
   - The lowest trailing platform must be assembled so the platform is completely covering all openings right up to the wall. No open holes shall exist between the wall and the platform.

3. General Practices
   Keep platform areas clean.

   Properly space lifting attachment points and securely attach devices.

   Use taglines to control the movement of crane handled forms and all material being hoisted onto the finished scaffold.

   Personnel are not allowed to ride a form or be directly under a form while it is being moved or while it is suspended in the air.

   Know the weight of a form, the capacity of the hoisting equipment and methods to safely move forms on the project.

4. Flying Deck Form Scaffold
   These forms require the installation of an additional guardrail mounted above what is normally the toprail. The toprail will then be located at the proper height when employees are on the new floor.

   It is a good practice to allow room on the outside of the deck form for a walkway and space for the finishers to work without being tied off.

5. Multi-Level Gang Form
   Multi-level gang forms shall have:
   - Fully planked platforms
   - Guardrails and toe boards
   - Access ladder
   - Platform hatch door
   - A lowest trailing platform that extends tight against the wall

MANUALLY PROPELLED MOBILE SCAFFOLD

1. When free-standing mobile scaffold towers are used, they shall conform to the requirements listed below:
   The height shall not exceed four times the minimum base dimensions.

   Casters shall be properly designed to support four times the maximum intended load and must be provided with a positive locking device to hold the scaffold in position.

   The scaffold shall be fully assembled with all cross and diagonal bracing to prevent racking.

   Platforms shall be tightly planked the full width of the scaffold, except for the necessary entrance opening, and secured in place. *Note:* If needed, the guardrail may be used to narrow the width of the scaffold at the work platform. If a guardrail is used, then all of the planks used as the walking surface will be secured from movement and planked 6 inches beyond the guardrail.

   A ladder or stairway shall be used to access the scaffold. It shall be fixed and located in a way that will prevent the scaffold from tipping when the ladder or stairway is being used.

   When it is necessary to move the scaffold to another location, the force pushing the scaffold shall be applied at the base of the scaffold. Do not pull from the top of the scaffold.

   Scaffolds may only be moved on level floors which are free of obstructions and operungs.

   A minimum of two craftspersons is required to move any mobile scaffold.

   Employees shall not ride on mobile scaffolds greater than 12 feet in height measuring from the floor to the walking surface.

2. When moving the scaffold:
   - Move it on a level surface (within 30), free from any holes or obstructions.
   - The minimum base dimension must be at least 6 feet.
   - Wheels must be equipped with rubber or comparable resilient tires.
   - All tools must be secured from movement.

SWING STAGE SUSPENDED SCAFFOLD

Before any suspended swing-type scaffold is set up on our projects, the Superintendent will review the following guidelines with the intended user of the scaffold. Work using the scaffold will not begin until these guidelines are met.

1. Guidelines
   Only commercially manufactured platforms are acceptable. (Example: Aluminum pick platform)

   Suspension scaffold platform shall be:
   - At least 20 inches, but not more than 36 inches wide overall
   - Securely fastened to the hangers by U-bolts or other equivalent means.

   The platform shall be securely fastened to the steel hangers of the hoisting frame.

   The platform:
   - Shall be provided with a standard guardrail, an intermediate rail and a toe board along the entire length of the platform on the outer side.
   - Both ends shall also be guarded. Mesh can be used when practical.
   - Will have the inner edge guarded in this manner if a fall exposure exists at this edge during the scaffold's travel.
   - The hangers of suspension scaffolds shall meet the manufacturer's requirements.

   The design of hoisting machines used on suspension scaffolds shall be tested and approved by a credited agency.

   Suspension scaffolds shall be suspended by wire, synthetic, or fiber ropes capable of supporting at least six times the rated load. All other components must be capable of supporting at least four

times the rated load.

The sheaves of all blocks, consisting of at least one double and one single block, shall fit the size and type of rope used.

Two-point suspension scaffolds shall be secured to the building or structure to prevent them from swaying. Window cleaners' anchors shall not be used for this purpose.

Inspect before every installation:
- All wire ropes
- Fiber and synthetic ropes
- Slings
- Hangers
- Platforms
- All other supporting parts

Daily documented inspections must be made while the scaffold is in use.

The maximum allowable load on the scaffold shall never exceed the rating of the weakest component of the system.
- No more than two employees can be permitted to work at once on a scaffold rated for workloads of 500 pounds.
- No more than three employees can be permitted on scaffolds rated for loads of 750 pounds.

2. Anchorage
   All installations shall be anchored twice with primary and sE-Con Electric, Incdary anchors. Primary anchors will consist of devices such as corniee hooks and parapet clamps. Others include counter weighted devices such as outrigger beams, rolling outrigger towers, or rolling roof rigs. Plans will be submitted to M.A. Mortenson Company showing the information listed below:

Primary Anchors
Primary anchors shall meet the following criteria:
- Made only of structural metal.
- Equipped with an eye bolt, a shackle, or other safe means of attaching supporting ropes and/or cables.
- Each cable connection will have three appropriate sized fist-grip -type cable clamps.
- When primary anchors are secured with counterweights, these weights shall be securely fastened to the outrigger system as designed, or tied onto the beam. Counterweights shall consist of a solid non-flowable material. Flowable material such as bags filled with sand are illegal.
- The overhang of outrigger beams shall not exceed the distance specified by the manufacturer. Use correct number of counterweights as specified or, if other methods of rigging are used, ensure that they are capable of safely supporting the maximum total load with a minimum safety factor of 4 - 1.

SE-Con Electric, Incdary Anchors
SE-Con Electric, Incdary anchors can be 3/8 inch cable or 3/4 inch manila rope used to secure the primary anchor to a structurally sound component of the building.

Each employee must be protected by an approved body harness attached to a lifeline. The lifeline must be securely attached to substantial members of the structure *(not the scaffold),* or to securely rigged lines which will safely suspend the employee in case of a fall. In order to keep the lifeline continuously attached with a minimum of slack, the attachment point of the lifeline shall be appropriately changed as the work progresses.

Each employee on a stage shall be secured to their own independent lifeline.

If a horizontal lifeline is used, one employee per 5,000 pound rating is allowed to tie-off to it. In other words, the lifeline and anchorage point must be rated for 5,000 pounds each per employee. (Two employees 10,000 + rating).

Each employee shall wear a full body safety harness.

Use a lanyard that features a shock-absorbing device.

Secure the lanyard to a rope or cable by means of an approved rope or cable grab device.

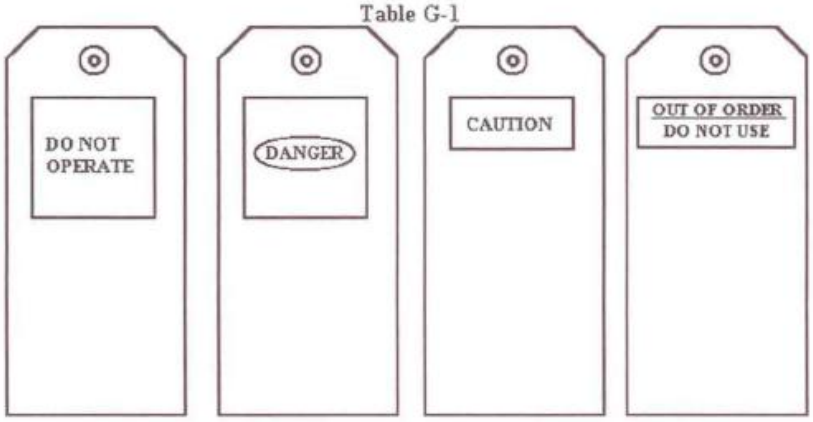
When setting up or relocating the primary anchor devices, employees shall use a fall protection method that offers protection while they are near an edge.

Consult the Safety Department for safety guidelines on multi-level platforms.

UNSAFE EQUIPMENT

Tags used by Competent Persons that indicate any unsafe condition or equipment discovered either during inspection or during use of the scaffolding. These tags take the scaffolding out of use.

Table G-1



White tag - White letters on a red square	White tag - White letters on red oval with a black square	Yellow tag - Yellow letters on a black back-ground	White tag - White letters on a black back-ground

Basic Stock (Background)	Safety Colors (Ink)	Copy Specification (Letters)
White	Red	Do Not Operate
White	Black and Red	Danger
Yellow	Black	Caution
White	Black	Out of Order Do Not Use

Security
Guidelines

- Protect building openings, docks, yards, and alleys with quality lighting.
- Provide interior lighting over valuable merchandise and over the safe.
- Control all security lighting by a timer or photo-electric cell.
- All outside doors should have double cylinder dead bolt locks.
- Utilize the bar extension lock on overhead doors, along with a case hardened padlock.
- Door hinges should not be located on outside of entrance doors, or be secured in such a manner that pins can not be removed.
- Windows should be equipped with locks, bars or wire mesh. Protect window bars and wire mesh from outside tampering.
- Security fencing should be provided for the entire open lot. Try to make it a "man proof" type of fencing. Maintain the fence and check it regularly. Fence gates should have padlocks.
- Develop a written procedure for securing the building and yard at the end of the business day.
- Metal locking cross bars can also be added on outside doors to provide extra security.
- For life safety purposes, provide single cylinder locks, panic bars or alarmed releasing bars on outside doors.

Slips and Falls
Guidelines

Slips, trips and falls can happen to anyone, anytime, anywhere. No single method can be used to prevent all slips and falls.

The most common causes of slips and falls include: unsafe use of ladders, jumping on or off lift gates, slippery surfaces, inappropriate footwear, poor lighting, obstacles on walkways, inattention and haste.

- Mop floor in area of spills immediately and post a sign stating **"Wet Floor"**. Never leave spills unattended.
- An oil absorbing material should be used to control small oil spills in the work place.
- During inclement weather keep rugs, mats, and floors dry. Snow and ice should be removed from all sidewalks, drives and access points used by the general public or employees. **Post wet floor signs.**
- Keep all floors, stairs, ladders, walkways, sidewalks and driveways in good repair.
- Be aware that electrical cords cause many tripping injuries.
- Good housekeeping is a must in accident prevention.
- Stairs, aisles and walkways should be clearly marked and kept free of any material.
- Look at each job and work area to consider the possible hazards.

Common Hazards

- Slippery areas
- Blocked walkways and stairs
- Ladders
- Electrical cords
- Poor lighting
- Housekeeping conditions

Preventative Measures

- Proper footwear
- Warning signs
- Non-skid surface
- Correct use of tools and ladders
- Floor mats
- Proper lighting

First Aid Procedures for Victims of Slips and Falls Guidelines

Employees should know:

- What to do in the event of an injury until help arrives.
- Name of person in organization who is trained in first aid.

The following is a list of basic first aid procedures for various types of slips and fall injuries. Be aware of your organization's first aid procedures and policies which may differ from those listed.

Fractures

- Symptoms: Swelling, deformity, pain and tenderness, loss of use.
- Gently remove clothing from area around injury. Avoid moving the injured area if at all possible. Check for symptoms.
- Control bleeding, but do not attempt to push any protruding bones back beneath the skin.
- Seek medical attention immediately.

Bleeding

- Control bleeding by gently applying direct pressure with a dry sterile dressing. If it becomes saturated, do not remove it, add another dressing.
- If possible, wear latex gloves or use other methods to protect against transmission of infection from the person's blood.
- Do not remove any impaled objects. Immobilize the object instead.
- Seek medical attention immediately.

Neck and Spinal Injuries

- Symptoms: Painful movement of the arms and/or legs, numbness, tingling, or weakness in arms or legs, loss of bowel or bladder control, paralysis to arms or legs, deformity of head and neck.
- Check heart rate and breathing; administer CPR if necessary, but do not use head tilt.
- *Do not move victim* unless he is in immediate danger.
- Stabilize victim to prevent any movement. Immobilize head and neck by placing objects on either side.
- Protect victim against shock or hypothermia.
- *Do not attempt to splint a victim.* Await professional EMS help.

Trenching and Excavating Guidelines

Guidelines are the suggested for trenching and excavating. Additional safety guidelines may be required to meet individual specific safety needs.

Utility installations, such as sewer, telephone, fuel, electric, water, or any other underground installations that reasonably may be expected to be encountered during excavation work, shall be determined prior to opening an excavation. This can be accomplished by contacting local or state *"one-call"* system before digging.

- When the excavation is open, underground installations shall be protected, supported or removed as necessary to safeguard employees.

- Each employee in an excavation shall be protected from cave-ins by an adequate protective system:
  1) Any excavation more than five feet deep, slope the sides no more steeply than the proper *angle of repose* or soil conditions;
  2) Proper shoring; and/or
  3) Trench box, as recommended by OSHA.

  (angle of repose-The greatest angle above the horizontal at which a material will lie without sliding. This varies for different soil conditions.)

- Keep excavated materials a minimum of two feet from the edge of the trench.

- In trenches more than four feet deep, locate adequate means of safe access and egress, such as ladders, or steps, so they can be reached in no more than 25 feet of travel from anywhere in the trench and shall not exceed 25ft of lateral travel.

- Keep heavy loads of all kinds as far from the trench as possible.

- Do not allow water, rain, ground water, surface water to accumulate in a trench. Water reduces soil stability.

- Daily inspections of excavations, the adjacent areas and protective systems shall be made by a competent person prior to the start of work and as needed throughout the shift. If evidence of a situation that could result in a possible cave-in, indications of failure of protective systems, hazardous atmospheres or other hazardous conditions are found, exposed employees shall be removed from the hazardous area until the necessary precautions have been taken to ensure their safety.

- Never touch a piece of excavation machinery while it is in operation.

- Always stand in view of the machine operator, and out of the way. Never stand at the edge of the excavation.

- In locations where oxygen deficiency or gaseous conditions are possible, the air in excavations shall be tested.
- Unattended excavations must be lighted and barricaded. Keep non-workers away from the trench, particularly at night.

- When excavating near traffic areas safety vests shall be worn by all employees involved.

- Barricades and signage is to be used near traffic area to protect employees.

- Full bodied safety harness will be utilized for extreme conditions.

- Head protection shall be required of everyone at the job site.

- Employees shall be protected against potential falling loads and are not permitted to work under loads of digging equipment where loads may fall.
- Guardrails shall be installed for crossings and walkways to protect against falls.
- Soil classifications and provide examples of soil types, tests used to determine soil types, and protection systems shall be utilized to prevent hazards with excavations.

Classification of Soils for Excavations

Method no.:	ID-194
Control no.:	T-ID194-FV-02-0111-PM
Sample:	Soil (excavated earth material).
OSHA Regulations:	Earth material that is excavated must be properly sloped or supported for construction and safety purposes. The factors and specifications that relate to this protection are outlined in 29 CFR 1926 Subpart P Appendix A (3.1). They include instructions for the proper sloping and shoring and bracing of the soil as determined by an analysis and classification of the material.
Sample Size:	A sample of approximately 1.4 kg (3 lb) or 1 L (1 qt) is preferred. All samples are analyzed regardless of size.
Procedure:	Obtain a sample by any safe means and seal it in an airtight plastic bag. Affix an official sample identification seal on the bag. Enclose and secure the bag in a second bag for protection. Place this prepared material and required identification papers in a box for shipping by certified mail. The sample will analyzed by visual and manual tests and a classification determined.

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1. History

When a trench or other excavation is made in soil, the residual forces in the ground work to restore the soil to a more stable configuration. If those residual forces (gravity) are greater than those holding the trench or excavation walls where they are, a cave-in occurs. There are a number of factors which determine the stability of a given excavation wall. It is beyond the scope of this document to fully describe soil mechanics in this way. However, it has been found empirically that soil, when sloped appropriately, will resist the residual forces and remain safely stable.

Because the evaluation of soil conditions and structure is crucial to safe operation in and around excavations, an excavation standard was among the first promulgated by OSHA in 1971. In that standard, soils were classified into three types called running, unstable, and hard compact (Ref. 3.2). These terms were generally misunderstood. Later, the terms were revised and renamed granular, cohesive, granular cohesionless, and cemented (Ref. 3.1).

In 1989, it was estimated that there were 70 fatalities and more than 800 lost workday injuries annually in the United States due to excavation accidents. Responding to this high incidence rate, OSHA promulgated the current excavation standards (Ref 3.1) and it has the following requirements:

1. Classification of soil and rock deposits. Each soil and rock deposit shall be classified by a competent person as Stable Rock, Type A, Type B, or Type C in accordance with the definitions set forth in 29 CFR 1926 Subpart P Appendix A.

2. Basis of classification. The classification of the deposits shall be made based on the results of at least one visual and at least one manual analysis. Such analyses shall be conducted by a competent person using tests described in 29 CFR 1926 Subpart P Appendix A, or in other recognized methods of soil classification and testing such as those adopted by the American Society for Testing Materials, or the U.S. Department of Agriculture textural classification system.

3. Visual and manual analyses. The visual and manual analyses, such as those noted as being acceptable in 29 CFR 1926 Subpart P Appendix A, shall be designed and conducted to provide sufficient quantitative and qualitative information as may be necessary to identify properly the properties, factors, and conditions affecting the classification of the deposits.

4. Layered systems. In a layered system, the system shall be classified in accordance with its weakest layer. However, each layer may be classified individually where a more stable layer lies under a less stable layer.

5. Reclassification. If, after classifying a deposit, the properties, factors, or conditions affecting its classification change in any way, the changes shall be evaluated by a competent person. The deposit shall be reclassified as necessary to reflect the changed circumstances.

As a result of the new regulations, the Bureau of Labor Statistics reported, in 1999, 44 deaths due to excavation and trenching accidents. (Ref. 3.10)

The angle of the slope depends upon the properties of the soil in which the excavation has been made. The mineral particles that constitute soil and other earth materials can bond by chemical and physical forces that oppose the force of gravity. Chemical bonding, or cohesion, refers to the chemical forces that bond mineral particles. Physical bonding refers to the bonding of the more coarse grains such as sand and gravel by frictional forces that include the interlocking of particles.

29 CFR 1926 Subpart P Appendix A is based on site and environmental conditions, and on the structure and composition of the soil deposits. The soil classification system means a method of categorizing soil and rock deposits in a hierarchy of Stable Rock, Type A, Type B, and Type C, in decreasing order of stability.

1. Stable rock means natural solid mineral matter that can be excavated with vertical sides and remain intact while exposed.

2. Type A means cohesive soils with an unconfined, compressive strength of 1.5 ton per square foot (tsf) (144 kPa) or greater. Examples of cohesive soils are: clay, silty clay, sandy clay, clay loam and, in some cases, silty clay loam and sandy clay loam. Cemented soils such as caliche and hardpan are also considered Type A. However, no soil is Type A if:

    a. The soil is fissured; or

    b. The soil is subject to vibration from heavy traffic, pile driving, or similar effects; or

    c. The soil has been previously disturbed; or

    d. The soil is part of a sloped, layered system where the layers dip into the excavation on a slope of four horizontal to one vertical (4H:1V) or greater; or

    e. The material is subject to other factors that would require it to be classified as a less stable material.

3. Type B means:

a. Cohesive soil with an unconfined compressive strength greater than 0.5 tsf (48 kPa) but less than 1.5 tsf (144 kPa); or

b. Granular cohesionless soils including: angular gravel (similar to crushed rock), silt, silt loam, sandy loam and, in some cases, silty clay loam and sandy clay loam.

c. Previously disturbed soils except those which would otherwise be classed as Type C soil.

d. Soil that meets the unconfined compressive strength or cementation requirements for Type A, but is fissured or subject to vibration; or

e. Dry rock that is not stable; or

f. Material that is part of a sloped, layered system where the layers dip into the excavation on a slope less steep than four horizontal to one vertical (4H:1V), but only if the material would otherwise be classified as Type B.

4. Type C means:

a. Cohesive soil with an unconfined compressive strength of 0.5 tsf (48 kPa) or less; or

b. Granular soils including gravel, sand, and loamy sand; or

c. Submerged soil or soil from which water is freely seeping; or

d. Submerged rock that is not stable, or

e. Material in a sloped, layered system where the layers dip into the excavation or a slope of four horizontal to one vertical (4H:1V) or steeper.

In its 1989 rule making, OSHA relied heavily on a classification system developed in 1982 by the National Bureau of Standards (now the National Institute of Standards and Technology - NIST). In addition, OSHA used several other sources of information including ASTM standards. (Ref. 3.10)

In addition to these fundamental references, SLTC used *The Unified Soil Classification System* (Refs. 3.3 and 3.4), the *Engineering Geology Field Manual of the U.S. Bureau of Reclamation* (Ref. 3.5), and other documents (Refs. 3.6-3.9) in the development of this method.

OSHA Method ID-194 was developed to emphasize the performance and engineering properties of soil and is consistent with the objectives and requirements of the 1989 Federal excavation regulations. Many other methods used to classify soil provide a textural name for soil such as clay, silty clay, sandy clay, clay loam and, in some cases, silty clay loam and sandy clay loam. Because each of these methods specify slightly different tests, the names are similar to each other but can have a different meaning. An attempt is made to provide a textural name of the soil with this OSHA method (so that a comparison can be made with other methods) but a compete separation of all of the soil components is not performed by the tests described in this method. This could result in a textural name that is slightly different from other soil classifying methods.

2. Analytical

The analytical procedures of this method are grouped under the headings: visual, manual, and classification. Soil samples may represent a proposed excavation site or selected areas of an existing excavation. All samples are analyzed and classified by the methods outlined and described here.

Safety and health precautions include care to prevent air-born dust and the use of gloves and safety glasses when handling wet soil.

2.1 Visual (Ref. 3.1)

Copy all sample identification numbers from the sample submission report form to sample work data sheets (An example is included at the back of this method.). For analytical convenience, accountability, and continuity, record the number of each container used in analysis.

Open the soil bag and record the general characteristics of the sample, such as sand, gravel, or clay. Note and set aside any rock fragments (pieces of rock >3 in.) that may be present. Estimate the percent of the sample that is in the form of clumps between ¼ and 1 in., and identify possible structural discontinuities such as

layers, lenses (discontinuous layers) and cracks or fissures. Note the presence of water or other features that are peculiar to the sample.

2.2 Manual

The manual tests include the equipment required for analysis and the procedures used to determine the specific properties and classification of the soil.

2.2.1 Equipment

a. Bread pans of regular size for drying samples.

b. Stainless steel bowls of at least 2- L capacity.

c. A forced air oven that will hold and dry samples at 60°C.

d. U.S.A. Standard 8-in. dry sieving pans #4 (4.75-mm opening), #40 (0.425-mm opening), a #200 (0.075-mm opening) and a catch pan and cover.

e. A #200 U.S.A. Standard 8-in. wet sieving pan.

f. A laboratory balance that will read up to 3 kg with a precision of ±1.0 g.

g. A standard soil pocket penetrometer (Ref. 3.2) for the measurement of the unconfined compressive strength.

h. A fine hair bristle brush and a wire bristle brush for cleaning the test sieves.

2.2.2 Procedures

a. Unconfined Compressive Strength (Ref. 3.1)

Within five minutes after a sample of broken soil is exposed to the open air, remove one or more of the largest clumps and analyze it with a pocket penetrometer. Slice each clump with a spatula to provide a smooth surface for analysis.

Press the penetrometer cylinder against the sample and compress the soil and the calibrated spring of the instrument to the marked ring on the cylinder. Read the position of the ring on the calibrated scale of the cylinder. Record the unconfined compressive strength reading in tons per square foot (tsf) or kilograms per square centimeter (kg/cm^2). Report the average of at least three readings if possible. Note all samples that break apart and do not provide a positive analysis.

b. Plasticity (Refs. 3.3 and 3.4)

Plasticity is defined as an inherent property of certain soils to mold and roll between the palms of the hands into a stable thread 0.3 cm (in.) in diameter and the tensile strength to support a 5-cm section when held at one end. To possess plasticity for classification purposes, the soil must satisfy these conditions and contain at least 15% silt and clay as determined by gradation analysis.

Determine and record the state of plasticity of the soil at the as-received water content. If plasticity is not observed, analyze the sample after it is dried using only that part of the sample that passes the #40 sieve. Add water in different amounts to obtain a wide range of water content for analysis. If the clay content is low, plasticity is not an inherent property of the soil, and it will not be identified at any water content.

c. Gradation Analysis (Ref. 3.3)

This test is used to determine the amount of gravel, sand, and total silt and clay in a soil sample. These constituents are identified using the particle size scale of the Unified Soil classification system. Silt and clay are not distinguished from each other in this test. The gradation procedures are described as follows:

Dry the soil for 2 days at 60°C to prepare the soil for analysis. Vent the air from the oven to the outside to avoid exposure to possible toxic fumes.

Tare a bowl on a laboratory balance. Add at least 100 g of a dry fine-grained sample or 200 g of a coarse-grained sample (sand and gravel) to the bowl. If that amount is not available, use as much as possible. Record the weight and cover the sample with water. Let it stand in this state for at least 2 hours and up to 24 hours.

Transfer this material to a #200 wet sieving pan and wash the fine grains of silt and clay through the sieve with running water until it is visibly clear. Wash the material that is retained on this sieve back into the bowl and decant the water and any supernatant. Dry this residue at 60°C or at any other preferred temperature.

Place the dried soil onto a nest of pans containing a #4 sieve at the top, a #200 sieve in the middle, and a pan at the bottom to catch any residual silt and clay. Tap the pans manually on a table top at least 20 times to separate the grains by size.

Report the total gravel as the weight of material retained on the top or #4 sieve and the total sand as the weight of material retained on the next or #200 sieve. The total silt and clay content is equal to the difference between the combined weight of the sand and gravel and the weight of the sample used. Silt and clay comprise the fine-grained material that is washed through the #200 sieve during analysis. Convert the weight of the material retained on the #4 sieve and the #200 sieve as the dry weight percent of the gravel and sand, respectively.

2.3 Classification

The analytical data is used to classify the soil according to the dominate texture, structure, and Type (strength), the ultimate objective of analysis. These classifications are identified according to specific conformance and performance standards and definitions outlined in 29 CFR 1926 Subpart P Appendix A and the following definitions and instructions:

2.3.1 Structural Classification

The common soils include those that correspond to a granular, cohesive, or granular cohesionless structures outlined in the Federal excavation regulations. They are identified as follows:

- Granular soil contains <15% silt and clay (>85% sand and gravel) (Ref. 3.4)
- Cohesive soil possesses the property of plasticity
- Granular cohesionless soil contains >15% silt and clay and does not possess plasticity, or otherwise, is neither granular nor cohesive. (Ref. 3.4)
- Fissures are identified visually or indirectly by the tendency of clay with a Q_u >1.5 to break into small pieces between ¼ and 1 in. due to microfissures when disturbed.

2.3.2 Type Classification:

- Granular soil is Type C
- Granular cohesionless soil is Type B
- Cohesive soil is Type C if the unconfined compressive strength, $Q_{u,}$ is <0.5
- Cohesive soil is Type B if Q_u is 0.5 to 1.5
- Cohesive soil is Type A if Q_u is >1.5 and not fissured
- Cohesive soil that is fissured is Type B unless the Q_u dictates that it is Type C.
- Fissures may be identified visually or indirectly by the tendency of clay with a Q_u >1.5 break into small pieces between ¼ and 1 in. due to microfissures when disturbed.

A more convenient guide to classification is given in the chart on Page 7. The three soil structures appear at the top of the chart, and the appropriate definitions and properties that apply are listed below with Soil Type at the bottom. Soil Structure and Soil Type systematically unfold accordingly.

2.3.3 Textural Classification

Soil texture is based on the following definitions and instructions:

- Designate clay as the last word in the textural name of all soils that are cohesive, and designate sand or gravel as the last word for all soils that are granular.
- Modify that name with the less predominant constituents as a first name.
- Do not use either sand or gravel in the textural name if the soil contains <10% and <30% of the dry weight of the soil, respectively.
- An example and the most typical of all soils classified at OSHA-SLTC is sandy clay.

2.3.4 Report

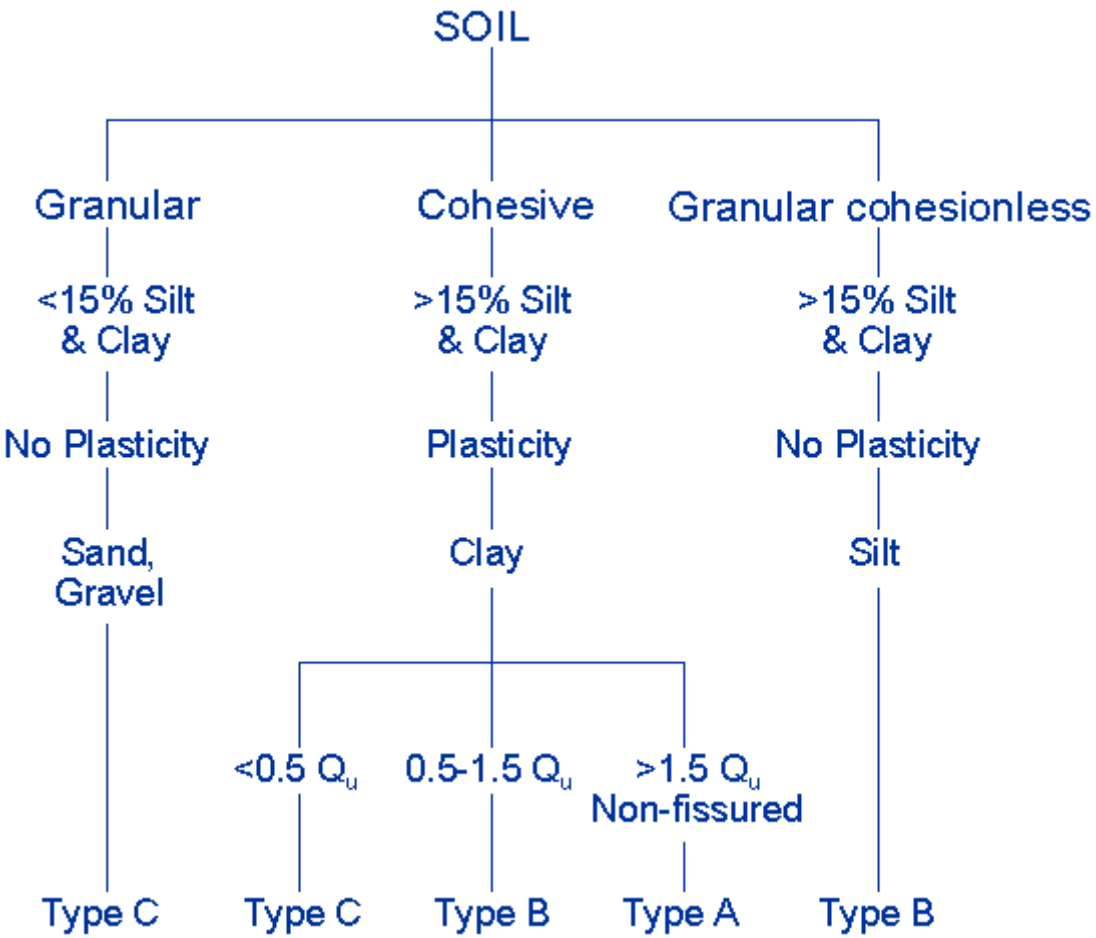
The following information will be entered onto the sample report in the section titled 'Comments for Specific Analyte':

Classification:
Textural: xxxx (e.g., Sandy Clay)
Structural: xxxx (e.g., Cohesive)
Type: x (e.g., B)
The above classification is based on visual/manual procedures described in OSHA Method ID-194.

2.3.5 Soil Reclassification

Classification of soils by this method is based upon measurement of physical properties appropriate to the OSHA excavation standard, and the condition of the sample as it is received at the Salt Lake Technical Center. Certain field conditions, such as the presence of standing water, may override this laboratory classification as mentioned in 29 CFR 1926 Subpart P Appendix A. Supplemental testing by other methods of analysis may provide a more appropriate description and classification of unusual or atypical soils.

SOIL CLASSIFICATION CHART



Note: 1) Intact cemented soils such as hardpan and caliche (a layered carbonate accretion) are classified Type A.
2) All fissured soils are classified cohesive and Type B.
3) Angular gravel and rock fragments are classified granular cohesionless and Type B.
4) The value of 15% in the above chart corresponds to the maximum amount of silt and clay that is permitted in a soil that is

granular in structure. (Ref. 3.4)

3. References

3.1 Code of Federal Regulations, Title 29, Part 1926, Subpart P, 1999, pp. 372-409. U.S. Government Printing Office, Washington, D.C. 20402-9328.

3.2 Ibid. 1987, p. 207.

3.3 *Earth Manual,* U.S. Dept of the Interior, Water and Power Resources Service, Denver, CO, 1980, pp.1-22.

3.4 U.S. Bureau of Reclamation, Engineering Geology Field Manual, Volume 1. p.38. U.S. Government Printing Office, Washington, D.C. 20402-9328.

3.5 *Fundamentals of Geotechnical Analysis*, Dunn, I.S., 1980, p.33, John Wiley and Sons, Inc.

3.6 *Materials Testing Catalogue,* Soiltest Inc., Corporate Headquarters, 86 Albrecht Drive, Lake Bluff, Illinois, 60044-8004.

3.7 *National Academy of Sciences, Compendium 13. Slopes: Analysis and Stabilization*, 1980, p.141. Washington, D.C. 20402-9328.

3.8 *Mechanics in Foundation Engineering*, Wilun, Z. and Starzewski, K., p.77, 1972, Surrey Press, 450 Edgeware Rd. London.

3.9 *Engineering Classification and Index Properties of Intact Rock*, Deere, D.U., and Miller, R.P.,Clearance House for Federal Scientific and Technical information, Dept. of Commerce, Washington D.C.

3.10 *Federal Register*, Vol. 54, No. 209 p45894 et seq., U.S. Government Printing Office, Washington, D.C. 20402-9328

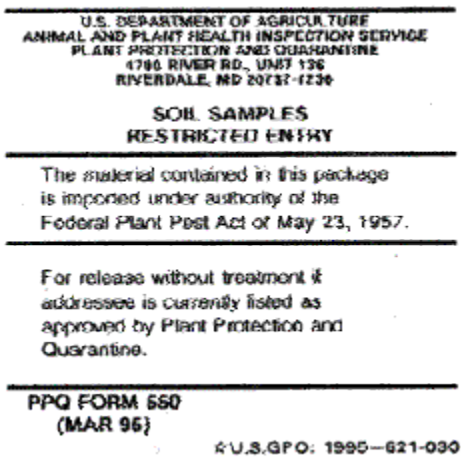
Addendum A

The method for packaging the soil samples for shipment to the SLTC will be in a sturdy, leak-proof container, which include the following:

a. Samples will be placed in a heavy-duty plastic bag that will not tear and secured and sealed airtight with tape. The plastic bag will be placed in a heavy-duty cotton bag for additional protection.

b. Each soil sample will be sealed for identification with an official Form 21 seal containing a field number, sampling date and the sampler's name.

c. If the soil sample being shipped from all foreign sources, including Guam, Hawaii, Puerto Rico, and the U.S. Virgin Islands through any U.S. port of entry, a PPQ Form 550 will be attached to the outside of the shipping box. Copies of this form may be obtained by telephoning 801-524-7900 and asking for the Soils Laboratory. Requests for the form can also be made by e-mail to merrell.clint@dol.gov or crane.dan@dol.gov.


U.S. DEPARTMENT OF AGRICULTURE
ANIMAL AND PLANT HEALTH INSPECTION SERVICE
PLANT PROTECTION AND QUARANTINE
4700 RIVER RD., UNIT 136
RIVERDALE, MD 20737-1236

SOIL SAMPLES
RESTRICTED ENTRY

The material contained in this package is imported under authority of the Federal Plant Pest Act of May 23, 1957.

For release without treatment if addressee is currently listed as approved by Plant Protection and Quarantine.

PPQ FORM 550
(MAR 95)

*U.S.GPO: 1995—621-030

Below is an example of the Soil Permit that is necessary to import soil samples into the United States. A copy of the actual permit is to be attached to the OSHA Form 91A. The permit can be obtained by contacting the persons mentioned above.

Soil Permit

Permit Number: S-40368

UNITED STATES DEPARTMENT OF AGRICULTURE

Animal and Plant Health Inspection Service

Plant Protection and Quarantine

Issued To: Occupational Safety and Health Administration
(Rick Cee)
1781 South 300 West, Salt Lake Technical Center
Salt Lake City, Utah 84115

TELEPHONE: (801) 487-0073

Under the authority of the Federal Plant Pest Act of May 23, 1957, permission is hereby granted to the facility/individual named above subject to the following conditions:

1. Valid for shipments of soil not heat treated at the port of entry, only if a compliance agreement (PPQ Form 519) has been completed and signed.
2. To be shipped in sturdy, leakproof, containers.
3. To be released without treatment at the port of entry.
4. To be used only for analysis and only in the facility of the permittee at Occupational Safety and Health Administration, located in Salt Lake City, Utah.
5. No use of soil for growing purposes is authorized, including the isolation or culture of organisms imported in soil.
6. All unconsumed soil, containers, and effluent is to be autoclaved, incinerated, or heat treated by the permittee at the conclusion of the project as approved and prescribed by Plant Protection and Quarantine.
7. This permit authorizes shipments from all foreign sources, including Guam, Hawaii, Puerto Rico, and the U.S. Virgin Islands through any U.S. port of entry.

MARCH 31, 2004
Expiration Date

Approving Official DEBORAH M. KNOTT

PPQ FORM 525B (8/94)

Pt. 1 - PERMITTEE

Classification of Soils for Excavations Sample Work Data Sheet				
Analyst:		Sampling Number:		
CSHO ID:	Reporting ID:		Inspection Number:	
Laboratory Number:		Submission Number:		
Sample Description:				
Compressive Strength (tsf) (average):				
Clumps (estimated):		Fissures:	Yes	No
>1 in. (%):		Layers or Lenses:	Yes	No
>¼ in.<1 in. (%):		Water Present:	Yes	No
Drying Pan Number:				
Plasticity:	Yes No			
Graduation Bowl Number:		Sample Weight (g):		
>#4 Sieve (g):	>#200 Sieve (g):		<#200 Sieve (g):	

Gravel (%):	Sand (%):	Silt & Clay (%):	
Classification			
Textural:			
Structural:	Granular	Cohesive	Granular Cohesionless
Type:	A	B	C
Notes:			

Welding and Cutting
Guidelines

- Wear proper eye safety protection during welding and cutting operations.
- Ventilation should be provided whenever welding, cutting or heating is being performed.
- Arc welding and cutting operations will be shielded by noncombustible or flame-proof shields to protect employees from direct rays.
- A suitable fire extinguisher should be readily available when welding, cutting or heating operations are being conducted. Proper training in the use of fire extinguishing equipment for employees assigned to fire watch.
- Fire watch is required during all Welding or Cutting. See Hot Work for Fire watch time requirements.
- Always clear the area below cutting or welding operations so hot slag will not drop on hoses, cables, or employees.
- When electrode holders are left unattended, electrodes should be removed and the holder should be placed or protected so it cannot make electrical contact. All arc welding and cutting cables should be completely insulated.
- Always wear required eye protection to guard against slag while chipping, grinding and dressing of welds. Always wear a welding hood to protect eyes from flash burn.
- Fuel gas and oxygen hoses must be easily distinguishable and not interchangeable. Inspect hoses daily and repair or replace if defective.
- Always store cylinders properly on a welding cart or secured to a wall with a chain.
- All tank valves should be closed when equipment is not in use.
- Do not cut or weld around gasoline tanks or attempt to weld or cut a container that has stored a flammable or combustible liquid.
- Object to be welded or cut cannot readily be moved, all moveable fire hazards should be removed from the immediate area. Any fire hazards that cannot be moved require special protection, such as guards to confine heat, sparks and slag to protect the immovable fire hazard. A written plan for protection of immovable fire hazards must be utilized and approved by a competent person.
- Welding or cutting equipment should not be operated unless proper training has been provided.
- Welding or Cutting (Hot Work) that cannot be conducted safely. The welding and cutting shall not be performed. Alternate means shall be performed.
- Hot work permit is required and must be completed before performing work. See Hot Work Guidelines for requirements.
- Correct procedures shall be used when evolution of hazardous fumes, gases, or dust is possible. See Emergency action plan for procedure.
- Equipment operators must report equipment defects and discontinue use until it has been repaired or replaced.

Hot Work
Guidelines

It is important to support the Hot Work Policy of any facility where work is done. These facilities may require the use of a Hot Work Permit system where a permit is issued for a specific hot operation to be conducted during a set period of time. This is a method of work authorization that includes fire safety checks.

Hot work is any operation producing open flames, heat, or sparks. Some examples of hot work are cutting, grinding, brazing, welding, soldering, thawing pipe, and torch-applied roofing. Hot work introduces a potential ignition source to combustible materials. Failure to follow a hot work policy can contribute to an extreme fire loss.

Hot Work Permits are approved by the local facility manager. Permits are given to the person performing the work and usually only approved for 24 hours. General permits are not issued. Each specific job will be issued a separate permit. Once issued, the permit should be posted in a conspicuous location near the work site so it may be observed during welding and cutting operations.

The authorization should not be given for hot work operations until all safety precautions and requirements listed on the permit are met. Under no circumstances is a permit to be issued sight unseen. The local facility manager must inspect the area where hot work operations will be performed before a hot work permit tag is issued. Precautions to be followed before, during, and after hot work operations are listed in the following guidelines.

Fire Prevention and Protection

- Get a “Hot Work Permit” filled out by the facility manager before doing any hot work.
- If the object to be welded, cut, or soldered cannot be moved, all movable fire hazards in the vicinity should be taken to a safe place away.
- If the object to be welded or cut cannot be moved, and all the fire hazards cannot be removed, then guards must be used to confine the heat, sparks, and slag for protecting the immovable fire hazards. Only approved welding blankets should be used to cover combustible materials.
- If hot work operations are conducted in a building protected be automatic sprinklers, verify the sprinkler system is in-service before conducting any hot work operations.
- A fire watches must be continuously present during the entire hot work activity and 30 minutes after completion. In addition, a follow up check of the work area should be done every 30 minutes for 4 hours after the welding and cutting are completed where moderate combustion may occur.
- If the requirements listed above cannot be followed, welding and cutting should not be performed.

The use of permits may be discretionary in certain situations. Permits are required when a recognized fire hazard exists or there is a need for special precautions. When “hot work” is routine such as a minor soldering required in day to day maintenance, or plumbing, and there is no unusual fire hazard, then a permit may not be required. Even when a permit may not be required, persons undertaking any “hot work” are responsible for fire safety precautions appropriate to the situation.

Hot Work Permit

(Post in area of work)

Date ____/____/_____ Time _____

Building _____

Work to be done _____

Special Precautions _____

Fire Watch Required? _____ Yes _____ No

Fire Safety Supervisor _____

The location where this work is to be done has been examined, necessary precautions taken, and permission granted for this work (see below).

Permit Expires ____/____/_____ Time _____

Work Authorized By: (Signed) _____

Time Started _____ Completed _____

Final Check

Work area and all adjacent areas to which sparks and heat might have spread (including floors above and below and on opposite side of wall(s)) were inspected 30 minutes after the work was completed and were found fire-safe.

Signed _____ Time_____ Date ____/____/_____

Before approving any hot work permit the Fire Safety Supervisor will inspect the work area and confirm that precautions have been taken to prevent fire in accordance with NFPA 51B.

Precautions

- Sprinkler system in service
- Hot work equipment in good repair

Within 35 Feet of Work

- Floors swept clean of combustibles
- Combustible floors wet down, covered with damp sand, metal, or other shields
- All wall and floor openings covered
- Covers suspended beneath work to collect sparks

Work on Walls or Ceilings

- Construction is non-combustible and with out combustible covering(s)
- Combustibles moved away from opposite side of wall

Work on Enclosed Equipment

(Tanks, containers, ducts, dust collectors, etc.)

- Equipment cleaned of all combustibles
- Containers purged of flammable vapors

Fire Watch

- To be provided during and 30 minutes after operation
- Supplied with a fully charged and operable fire extinguisher
- Trained in use of equipment and in sounding fire alarm

Final Check

- To be made 30 minutes after completion of any operation unless Fire Watch is provided

FIRST AID

A. PROJECT PLANNING

Prior to the commencement of any project, the E-CON ELECTRIC, INC Manager shall insure provisions are made for prompt medical attention in case of serious injury.

B. FIRST AID RESPONDER

In the absence of an infirmary, clinic, hospital, or physician, that is reasonably accessible in terms of time and distance to the worksite, which is available for the treatment of injured employees, a person who has a valid certificate in first-aid training from the U.S. Bureau of Mines, the American Red Cross, or equivalent training (that can be verified by documentary evidence,) shall be continuously available at the worksite, able to respond to any employee injury in a timely manner with necessary first aid supplies, while work is in progress to render first aid.

C. FIRST AID SUPPLIES

First aid supplies shaII be easily accessible to the First Aid Responder, and will normally be stored in the Job Box Trailer. The First Aid Kit will be conspicuously posted on the trailer interior wall, be placed in a weatherproof container with individual sealed packages for each type of item, and be inventoried by the Job Superintendent prior to the job starting, and weekly thereafter to ensure a complete compliment of supplies per ANSI Z308.1-1978 "Minimum Requirements for Industrial Unit-Type First-aid Kits". At a minimum, job site First Aid kits will contain the following:

1" x 3" Plastic Bandages (100)
Fingertip Bandages (40)
Knuckle Bandages (40)
Elastic Strip Bandages (SO)
Extra Long Adhesive Bandages (25)
Triangular Bandage
Tri-Cut Adhesive Tape
Non Sterile 2" Clean Wrap
Non Sterile 3" Clean Wrap
Sterile 2" x 2" Gauze Pads (10)
Sterile 3" x 3" Gauze Pads (10)
Non Adherent Pads (10)
Sterile Blood Stopper Compress, 10" x 30"
Cold Spray (4 oz.)
Instant Ice Pack, Large
Sinus DE-Con Electric, Incgestant Tablets (36)
Pain Away Tablets (100)
Peptum Chewable Tablets (36)
Eyewash (4 oz.)
TheraTear Eye Drops (4)
Microshield CPR Mask
Emergency Medical Gloves, Pair
Antiseptic Spray Pump (4 oz.)
Burn Spray Pump (4 oz.)
Antiseptic Swabs (20)
Hydrogen Peroxide Pump (4 oz.)
Nextemp Thermometer (4)

Pocket Fills

Burn Relief, 4" x 4"
Triple Antibiotic Ointment (5)
Hydrocortisone Cream (5)
Disposable Tweezers
Kit Scissors
First Aid Guide
Antiseptic Swabs (8)
Burn Relief Sachets (6)
Alcohol Swabs (5)
Hand Sanitizer (5)
Splinter Out
Butterfly Bandages, Medium (10)

Patch Bandage, Large (5)

Some jobs may have unique or changing first-aid needs for which E-CON ELECTRIC, INC may need to enhance their first-aid kits. Consultation with the local fire/rescue department, appropriate medical professional or local emergency room may be helpful in determining these circumstances. The Job Superintendent will periodically assess the specific needs of the worksite and augment the first aid kit appropriately.

If it is reasonably anticipated that employees will be exposed to blood or other potentially infectious materials while using first aid supplies, the First Aid Kit will be stocked with appropriate personal protective equipment (PPE) in compliance with the provisions of the Occupational Exposure to Blood borne Pathogens standard, § 1910.1 030(d)(3) (56 FR 64175). This standard lists appropriate PPE for this type of exposure, such as gloves, gowns, face shields, masks, and eye protection.

D. TRANSPORTATION

Proper equipment for prompt transportation of the injured person to a physician or hospital, or a communication system for contacting necessary ambulance service, shall be provided. In areas where 911 is not available, Project Manager shall see that the telephone numbers of local physicians, hospitals, and ambulances are conspicuously posted on the front of the First Aid Kit.

E. INJURIOUS CORROSIVE MATERIALS

Where the eyes or body of any person may be exposed to injurious corrosive materials, the Job Superintendent is responsible for ensuring facilities for quick drenching or flushing of the eyes and body are provided within the work area for immediate emergency use prior to any work on, with, or in the vicinity of these materials.

Workplace Violence
Guidelines

On average, 20 employees are murdered, and 18,000 assaulted, while working each week in the United States. Experience shows 75 percent of workplace homicides occur during robberies. Almost 50 percent occur in retail trade and service industries.

Some Risk Factors for Workplace Violence

The potential for workplace-related violence is usually greater if employee's jobs involve:

- Face to face contact with the public
- Exchange of money with the public
- Delivery of passengers, goods, or services
- Working alone or in small numbers
- Working late at night or during early morning hours
- Working in high-crime areas
- Working with unstable or volatile persons
- Guarding valuable property or possessions

Reducing the Potential for Workplace Violence

The following may help reduce the potential for robberies or other acts of workplace violence:

- Establish a violence prevention program for your company. It should include:
  - ✓ Written statement expressing corporate policy of zero tolerance for threats, harassment or acts of violence (all employees should receive a copy)
  - ✓ Screening applicants for jobs (check references, work record of prospective employees)
  - ✓ Fair and prompt procedures for reporting and dealing with grievances
  - ✓ Procedures for employees to report threats, harassment, acts of violence or "unusual" behavior. It is desirable to also provide a means for confidential (anonymous) reporting of such incidents.
  - ✓ Mechanism for assessing and responding to threats or acts of violence (examples: verbal confrontation between employees, workplace entered by unauthorized person, employee brandishing weapon in workplace)
  - ✓ Procedures for documenting threats, acts of violence
  - ✓ Written procedures for disciplinary action, termination of employees who threaten or harass other employees, or commit acts of workplace violence
  - ✓ Training for new employees, refresher training as needed (corporate workplace violence policy, procedure for reporting threats, what to do, or not do, if a robbery occurs, conflict avoidance/resolution, other pertinent topics)

- Implement cash control procedures (keep minimal amount of cash in registers during evenings and late night hours, use drop safes or other devices to limit readily available cash, post signs informing public amount only limited amount of cash is available and that employees do not have keys to safes)
- Adopt work practices that limit opportunities for robbery or other acts of violence (admit no one to building after closing time, no removal of trash from building after dark, do make bank deposits at same time daily, etc.)
- Physically separate workers from customers (counters, bullet-resistant barriers or enclosures)
- Control non-employee access to workplace (visitor sign-in policies, use of employee identification badges, car-key access systems)
- Monitor workplace and parking lots for presence of unauthorized persons, “unusual” activity (closed circuit cameras, two-way mirrors, other security devices)
- Provide good lighting inside and outside building
- Provide a clear, direct line of view through windows into stores (not obstructed by signs, displays, merchandise)
- Escort employees to/from parking lots
- Provide security guards

VI. Special Programs

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Assured Equipment Grounding Conductor Program

Assured Equipment Grounding Conductor Program

1. It is the policy of **E-Con Electric Inc** to establish and implement an **Assured Equipment Grounding Conductor Program** on all construction projects covering:

A. All cord sets (temporary wiring) and receptacles which are not a part of the permanent wiring of the buildings.

B. All equipment and tools connected by extension cords and plugs and used by **E-Con Electric Inc** employees.

This policy shall apply to all projects except where local or state jurisdiction makes it mandatory to use **Ground Fault Circuit Interrupters (GFCI)**.

2. It is assumed that all temporary wiring for use on the project will be installed in accordance with the National Electric Code (NEC) requirement and be inspected as follows:

A. Before using any part of the temporary wiring system, it shall be tested for grounding and continuity of all receptacles that will be used by our employees. A record must be kept of this inspection.

B. Periodic testing shall be made to assure that each receptacle is properly grounded and that it is electrically continuous.

C. Every **three** months the cords (temporary wiring) and receptacles must be tested and at this time the color code will be changed. The **three** months test must be recorded on records in **E-Con Electric Inc** office.

D. On any outlets of 220 Volts or higher the outlet will be marked in **RED 220V** and the entire panel will be marked with a decal "**DANGER-HIGH VOLTAGE**.

E. If any time a defective outlet, cable or cord is noted, it must be tagged and **not** used until repaired and re-tested and re-marked, as noted above.

3. The following competent person (s) will be responsible for all items under 2 above:

_____ _____

_____ _____

4. **E-Con Electric Inc** Electrical equipment-Tools and Extension Cords.

A. Electrical equipment and Tools:

1. All electrical equipment and electrical tools will be identified by the **E-Con Electric Inc** identification number and then recorded by item and serial number on the log record in the **E-Con Electric Inc** office or other designated office.

2. Each item and subsequent purchases will be tested for electrical continuity, grounding, leakage, and proper male plug. The cord must show no visual breaks in insulation or repairs to unless equal to a new cord.

3. After testing, a color coded "inspected" adhesive sticker must be put on corresponding to the inspection period and recorded on the record log.

B. Extension Cords

1. Use only (minimum requirements) **Heavy Duty**, type ST-14/3 U.L. Listed, outdoor type, with molded rubber and/or nylon attachment caps and plugs.

2. Use same procedures for making, testing, and recording as in items A-1, 2, and 3 above at male end of cord.

C. Continuing of Testing Program

1. Visual daily inspection before issuance and/or use must be done by user, to be certain that no ground prongs are broken off or damaged, and that all cords to equipment or extension cords are free of visual breaks, crushing, or other damage. If item is found defective, it must be tagged and **not** used until repairs are made by a competent person, and then re-tested as noted in item A-2.

2. Every **three** months a full test must be done, including leakage, by a competent person and the new correspondence numeral attached. Also enter in appropriate column on log. Defective items must be tagged as noted in C-1.

3. The following competent person (s) will be responsible for the electrical equipment, tools and extension cords:

_____ _____

_____ _____

D. Every **E-Con Electric Inc** foreman must acquaint every employee of this program and see that it is implemented as intended.

5. Shop Inspection of Electrical Cords and Tools

A. The tool clerk, who is qualified to inspect equipment, will inspect each cord set, attachment cap, plug and receptacle of cord sets and any equipment connected by cord and plug before it is shipped from the shop to jobsite.

B. Each sub-contractor will be responsible for and must implement a program of their own to meet Federal and **E-Con Electric Inc** requirements and so notify the project manager.

C. A copy of this program shall be available at the project site for inspection and a copy by OSHA officials.

_____ _____

President Date

Bloodborne Pathogen Program

Bloodborne Pathogens Exposure Control Plan
for
E-Con Electric Inc

Section 1

A. Purpose

To limit occupational exposure to blood and other potentially infectious materials. Since any exposure could result in transmission of bloodborne pathogens which could lead to disease or death. This plan includes exposure determination, methods of compliance, engineering work practice control, personal protective equipment, housekeeping, Hepatitis B Virus (HBV) vaccination, post-exposure evaluation and follow-up information training and record keeping that, coupled with employee education, will help reduce on-the-job risks for all employees exposed to blood or other body fluids.

B. Exposure Determination

OSHA requires employers to perform an exposure determination concerning which employees may incur occupational exposure to blood or other potentially infectious materials. The exposure determination is made without regard to the use of personal protective equipment. The following job classifications in which some employees have occupational exposure because they have received training in First Aid and/or CPR or are responsible for housekeeping, including:

- Any volunteer employee who is designated as first aid and/or CPR responder. All names are posted in the main office.
- _____
- _____

The task and procedures are as follows:

- Cardiopulmonary resuscitation
- First Aid for choking victim
- Treatment of injury
- Wound care
- First Aid for strokes or seizures
- Cleaning and dE-Con Electric, Inctaminating an area after exposure to blood or other potentially infectious material

Section 2

General Program Management

A. Responsible Persons

1. Safety Manager

This person will be responsible for the overall management and support of the Bloodborne Pathogens Exposure Control Plan (BPECP). Activities will include, but not be limited to:

- Overall responsibility for implementing the BPECP.
- Development of additional related policies as needed.
- Revisions and updating of plans as necessary.
- Keeping abreast of legal requirements concerning bloodborne pathogens.

2. Local Coordinator

- Locate and provide training on BPECP as needed on an annual basis.
- Responsible for reporting incident to Safety Manager.
- Will work with the Safety Manager to develop specific exposure control procedures in their separate localities.

3. CPR/First Aid Responders and Housekeeping Staff

- Knowing which tasks they perform are potentially hazardous for bloodborne pathogen exposure.
- Attending the bloodborne pathogen training session.
- Using all work practice controls.

B. Availability of the Exposure Control Plan

The BPECP is available to all employees at any time. Employees will be advised of this availability during their training session. Employees will also be informed of the BPECP through the employee handbook.

Section 3

A. Method of Compliance

In the office location the requirements for compliance will be carried out by the Safety Manager and/or designated coordinator.

Universal precautions will be observed at this facility in order to prevent contact with blood and other potentially infectious material. All blood or other potentially infectious material will be considered infectious regardless of the perceived status of the source individual.

B. Engineering, Work Practice Controls and PPE

Hand washing facilities are readily accessible to employees who incur exposure to blood or other potentially infectious material. Hand washing facilities are located outside of all bathrooms.

Engineering and work practice controls will be utilized to eliminate or minimize exposure to company employees where occupational exposure remains after institution of these controls, personal protective equipment shall also be utilized.

The following engineering controls will be utilized:

- Disposable latex/vinyl gloves shall be worn where it is reasonably anticipated that employees will have hand contact with blood, non-intact skin, mucous membranes or other potentially infectious material.
- Microshields with one way valves will be required to be used if blood or other infectious materials can reasonably be anticipated.
- The protective equipment will be considered appropriate only if it does not permit blood or other potentially infectious materials to pass through or reach the employees clothing, 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. Personal protective equipment (PPE) is readily accessible to each employee listed in the job classification. The PPE will be kept in first aid kits located in marked sites around the facility and other designated locations. The housekeeping staff will keep the appropriate PPE in a visible location in their storage rooms.
- The coordinator will be responsible to oversee that after the removal of personal protective gloves, the employees wash their hands and any other potentially contaminated skin area immediately or as soon as feasible, with soap and water.
- PPE Accessibility - All personal protective equipment used at this facility will be provided without cost to employees and the appropriate size is readily accessible at the work site.
- PPE Use - The coordinator shall oversee that the employee uses the appropriate PPE unless the supervisor shows that the employee temporarily and briefly declined the use of PPE 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 posed an increased hazard to the safety of the worker or co-worker. When the employee makes this judgment, the circumstances shall be investigated and documented in order to determine whether changes can be instituted to prevent such occurrences in the future.

C. Housekeeping

The coordinator will follow approved disposal methods for handling regulated waste which has been used in an exposure incident. The coordinator will follow local procedures for disposal.
Regulated waste refers to the following categories of waste which require special handling, at a minimum:

- Liquid or semi-liquid blood or other potentially infectious materials;
- items contaminated with blood or other potentially infectious materials and which would release substances in a liquid or semi-liquid state if compressed;
- items that are caked with dried blood or other potentially infectious materials and are capable of releasing these materials during handling.
- Any contamination of equipment surfaces shall be cleaned and disinfected using a 1:10 bleach solution.

  Hard surfaces - 1:10 bleach solution
  Carpeted surfaces - Absorbent bleach material (i.e. Zep Chlor-retain)

All other non-regulated waste shall be disposed of in a lined waste container.

D. Laundry

Any laundry that is contaminated with blood or other potentially infectious materials will be handled as little as possible. Such laundry will be placed in appropriately marked bags at the location where it was used. Such laundry will not be sorted or rinsed in the area of use. The laundry service will take the appropriate measures to handle these items.

Section 4

A. Post Exposure Evaluation & Follow-up

All exposure incidents shall be reported, investigated and documented. When an employee incurs an exposure incident, it shall be reported to the coordinator, who will forward the information to the Safety Manager before the end of the workday.

All employees who experience an exposure will be offered a confidential post-exposure evaluation and follow-up in accordance with OSHA standards at no charge to the employee.

Following a report of an exposure incident, the exposed employee shall immediately receive a confidential medical evaluation and follow-up. Cost of testing and counseling will be borne by **E-Con Electric Inc**. The follow up will include at least the following elements:

1. Documentation of the route of exposure, and the circumstances under which the exposure incident occurred.
2. Identification and documentation of the source individual, unless it can be established that identification is not feasible or prohibited by state or local law.
3. The source individual's blood shall be tested as soon as feasible and after consent is obtained in order to determine HBV and Human Immunodeficiency Virus (HIV) infectivity. If consent is not obtained, the coordinator shall 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, shall be tested and the results documented.
4. When the source individual is already known to be infected with HBV or HIV, testing for the source individual's known HBV or HIV status need not be repeated.
5. Results of the source individual's testing shall be made available to the exposed employee, and the employee shall be informed of applicable laws and regulations concerning disclosure of the identity and infectious status of the source individual.

The coordinator evaluating an employee after an exposure incident shall ensure that the health care professional responsible for the employee's Hepatitis B vaccination is provided the following information:

- Written documentation of the route of exposure and circumstances under which the exposure occurred. (see attached exposure incident report)
- Results of the source individual's blood testing, if available.
- All medical records relevant to the appropriate treatment of the employee, including vaccination status.

The coordinator shall obtain and provide the employee with a copy of the evaluating healthcare professional's written opinion within fifteen (15) days of the completion of the evaluation.

The health care professional's written opinion for HBV vaccination shall be limited to whether HBV vaccination is indicated for an employee, and if the employee has received such vaccination.

The healthcare professional's written opinion for post exposure follow-up shall be limited to the following information:

- A statement that the employee has been told about any medical conditions resulting from exposure to blood or other potentially infectious materials which require further evaluation or treatment.
- A statement that the employee has been informed of the results of the evaluation.
- All other findings and diagnosis shall remain confidential.

B. Information and Training

The coordinator shall ensure that training is provided at the time of initial assignment to tasks where occupational exposure may occur, and that it shall be repeated within twelve (12) months of the previous training. Training shall be tailored to the education and language level of the employee, and offered during the normal work shift. The training will be interactive and cover the following:

1. A copy of the standard and an explanation of its contents;
2. A discussion of the epidemiology and symptoms of bloodborne diseases;
3. An explanation of the modes of transmission of bloodborne pathogens;
4. An explanation of the **E-Con Electric Inc** Bloodborne Pathogen Exposure Control Plan and a method for obtaining a copy;
5. The recognition of tasks that may involve exposure;
6. An explanation of the use and limitations of methods to reduce exposure, for example: engineering controls, work practices, and personal protective equipment;
7. Information on the types, use, location, removal, handling, dE-Con Electric, Inctamination, and disposal of PPE's;
8. An explanation of the basis and selection of PPE's;
9. Information on the Hepatitis B vaccination, including efficacy, safety, method of administration, benefits, and that it will be offered free of charge;
10. Information on the appropriate actions to take and persons to contact in an emergency involving blood or other potentially infectious materials;
11. An explanation of the procedures to follow if an exposure incident occurs, including the method of reporting and medical follow-up;
12. Information on the evaluation and follow-up required after an employee exposure incident.

The person conducting the training shall be knowledgeable in the subject matter.

Employees who have received training on bloodborne pathogens in the twelve months preceding the effective date of this policy shall only receive training in provisions of the policy that were not covered. Additional training shall be provided to employees when there are any changes of tasks or procedures affecting the employee's occupational exposure.

C. Recordkeeping

Training Records - The coordinator is responsible for maintaining the following training records. These records will be kept in the above named individual's office.

Training records shall be maintained for three years from the date of training. The following information shall be documented:

1. The dates of the training sessions;
2. An outline describing the material presented;
3. The names and qualifications of persons conducting the training;
4. The names and job titles of all personal attending the training sessions.

Availability - All employee records shall be made available to the employee in accordance with 29 CFR 1910.20.

All employee records shall be made available to the Assistant Secretary of Labor for the Occupational Safety and Health Administration and the Director of the National Institute for Occupational Safety and Health upon request.

Medical Records - The Safety Manager/Coordinator is responsible for maintaining medical records as indicated below. These records shall be kept in the Safety Manager/Coordinator's office.

Medical records shall be maintained in accordance with OSHA Standard 29 CFR 1910.20. These records shall be kept confidential, and must be maintained for at least the duration of employment plus thirty (30) years. These records shall include the following:

1. The name and social security number of the employee;
2. A copy of the employee's HBV vaccination status, including the dates of vaccination or a declination statement indicating they choose not to be vaccinated;
3. A copy of **all legally accessible results** of examinations, medical testing, and follow-up procedures;
4. A copy of the information provided to the healthcare professional, including a description of the employee's duties as they relate to the exposure incident, and documentation of the routes of exposure and circumstances of the exposure.

D. Evaluation and Review

The Safety Manager and or designated coordinator is responsible for annually reviewing this program, and its effectiveness, and for updating this program as needed.

E. Dates

All provisions required by this standard will be implemented by _____.

Hepatitis B Vaccination

The hepatitis B vaccination is made available after the employee has received the required training and within 10 working days of initial assignment where an employee may 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 pre-screening program a prerequisite for receiving hepatitis B vaccination.

If the employee initially declines hepatitis B vaccination but at a later date decides to accept the vaccination, the company will make this vaccination available at that time if the occupational exposure exists.

An employee who declines to accept the hepatitis B vaccination must sign the following statement.

Hepatitis B Vaccine Declination Statement

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

Employee Name _____

Employee Signature _____ Date _____

Exposure Incident Report

(To be completed by the coordinator)

Date _____

Name of exposed employee(s) _____

_____

_____

Explain in detail how exposure occurred. (What body fluids were involved, which body part was exposed, what was size of exposure, etc.)

_____

_____

_____

Explain the source of exposure

_____

Did the exposed employee(s) use PPE? _____ Yes _____ No If no, please explain.

_____

_____

_____

Individuals who witnessed the exposure.

_____ _____

_____ _____

Did the exposed employee wash the exposed area as soon as feasible after the exposure?

_____ Yes _____ No If no, please explain.

_____

_____

Was the employee(s) sent to the clinic to receive their confidential medical evaluation including the post exposure vaccination within 24 hours?

_____ Yes _____ No If no, please explain.

_____

_____

What clinic did the employee(s) attend? _____

Who was the attending health care provider? _____

Did anyone accompany the employee(s) to the clinic? _____ Yes _____ No

Was there any regulated wasted that needed to be disposed of? _____ Yes _____ No

If yes, please explain how this was accomplished.

_____

_____

_____ _____

Signed Date

Medical Records
Bloodborne Pathogen Exposure

Employee's Name _____

Social Security Number _____

Attached are the following:

- Copy of the employee's HBV vaccination status, including **dates of vaccinations** or a declination statement indicating they choose not to be vaccinated.

- **Copy of information provided to the health care professional including description of employee's duties as they are related to the exposure incident** and circumstances of the exposure.

Bloodborne Pathogen Exposure Control Plan

Coordinators Responsibilities

1. Read and understand the Bloodborne Pathogen Exposure Control Plan.

2. Inform CPR responders in your business that you are the coordinator and that you must be contacted immediately if an exposure occurs.

3. Inform CPR responders that you have a copy of the Exposure Control Plan and they may review it or receive a copy at any time.

4. Locate a qualified trainer to conduct your annual Bloodborne Pathogen Review Training and maintain training records in your office for three (3) years from the date of training. Training records will include:

- Dates of training;
- Outline describing material presented;
- Names and qualifications of persons conducting training;
- Names and job titles of all persons attending the training session.

5. You, as the responsible person, will oversee that the Bloodborne Exposure Control Plan is implemented and followed as described. This includes the following responsibilities:

- Distribute microshields and latex gloves to all trained CPR responders. This personal protective equipment is to be stored by the responder. Make sure all gloves are the proper size.
- Monitor first aid supplies and re-supply as necessary.
- If an exposure incident occurs, you must follow all post evaluation and follow-up procedures.
- Ensure that all regulated and non-regulated waste at the exposure scene is handled safely and disposed of properly.

Post Evaluation and Follow-up

If a first responder or housekeeping staff person responds to any situation involving the presence of blood or other potential infectious material (OPIM) the following steps must be taken:

1. If responder has exposure (direct contact with skin, eyes, mucous membrane) to blood or OPIM, wash all affected areas with disinfecting soap immediately, or rinse with running water. When in doubt if an exposure occurred, call the nearest clinic.

2. Contact the coordinator as soon as possible, but no later than the end of the exposed person's work shift.

3. Offer to send the employee to the nearest health care clinic to have a confidential medical evaluation. Specifically request that all charges be billed directly to **E-Con Electric Inc**. The employee can decline this service.

Bring a copy of the medical evaluation form with you to the clinic and give it to the attending licensed health care professional and ensure that all information has been covered with the exposed employee.

4. Complete the Exposure Incident Report as soon as possible and forward it to the Safety Manager.

5. Obtain and provide the employee with a copy of the evaluating health care professional's written opinion for HBV vaccination and whether the employee has received such HBV vaccination within fifteen (15) days of the completion of the evaluation.

The health care professional must also provide a statement indicating that the exposed employee has been told of any medical conditions resulting from the exposure and that the employee has been informed of the results of the evaluation.

Confidential Medical Evaluation Form

All charges are to be billed directly to **E-Con Electric Inc**.

1. Provide written documentation of route of exposure.

2. Test source individual for HBV and HIV infectivity if consent is given.

3. Test exposed individual for HBV and HIV infectivity if consent is given.
Document if consent is not given to test.

4. Provide information identifying whether the HEP B vaccination was recommended for the exposed employee and whether or not the employee received the vaccination. Any added findings must be kept confidential.

5. Provide a written statement that the employee has been told about any medical conditions resulting from exposure to blood or other potentially infectious materials which require further evaluation or treatment.

6. Provide a statement that the employee has been informed of the results of the evaluation.

7. Offer the employee counseling with the appropriate health care professional.

Confined Space Entry Program

CONFINED SPACE ENTRY

A. PURPOSE
To provide maximum protection for employees assigned to enter and work in confined spaces.

B. DEFINITIONS
Confined space means a space that: 1) Is large enough and so configures that an employee can bodily enter and perform assigned work; and 2) Has limited or restricted means for entry and exit (for example, tanks, vessels, silos, storage bins, hoppers, vaults, and pits are spaces that may have limited means of entry.); and 3) Is not designed for continuous employee occupancy; or 4) Any other space(s) more than four (4) feet deep.

Engulfment means the surrounding and effective capture of a person by a liquid or finely divided (flowable) solid substance that can be aspirated to cause death by filling or plugging the respiratory system or that can exert enough force on the body to cause death by strangulation, constriction, or crushing.

Entry means the action by which a person passes through an opening into a permit-required confined space. Entry includes ensuing work activities in that space and is considered to have occurred as soon as any part of the entrant's body breaks the plane of an opening into the space.

Hazardous atmosphere means an atmosphere that may expose employees to the risk of death, incapacitation, and impairment of ability to self-rescue (that is, escape unaided from a permit space.)

Permit-required confined space (permit space) means a confined space that has one or more of the following characteristics: (1) Contains or has a potential to contain a hazardous atmosphere; (2) Contains a material that has the potential for engulfing an entrant; (3) Has an internal configuration such that an entrant could be trapped or asphyxiated by inwardly converging walls or by a floor which slopes downward and tapers to a smaller cross-section; or (4) contains any other recognized serious safety or health hazard.

Training required: Prior to being eligible to obtain an entry permit, all employees participating in the confined space entry will be trained in their specific duties as outlined below. Each affected employee must be trained prior to initial assignment, prior to a change in assigned duties, and employees must be retrained if a new hazard has been created or special deviations have occurred. This training will be documented and forwarded to the Safety Director for certification and filing. The certification shall include employee name, trainer signature/initials, and dates of training. Certification must be made available to employees & their authorized representative. This training must be repeated if a new hazard has been created or special deviations have occurred.

C. DESIGNATED ROLES
When a permit-required confined space entry is to take place, the supervisor or project manager, will designate and verify the training of the persons who will have active roles in the entry operation. Additionally, the duties of each such employee will be identified.
A typical confined space entry team may include, but is not limited to, the following:

Authorized Entrants
Prior to being eligible to obtain an entry permit, authorized entrants will be trained. This training must be repeated if a new hazard has been created or special deviations have occurred. This training must be documented for the specific duties below and forwarded to the Safety Director for filing.

- Recognition of hazards that may be faced during an entry. Including the signs and symptoms of an exposure to a hazard as well as an understanding of the consequences of that exposure.
- When attendant/rescuers are required, authorized entrants will maintain communication with attendant/rescuer and will notify the attendant/rescuer in the event the entrants initiate evacuation.
- Authorized entrants will be provided with and use appropriate personal protective equipment as designated by the entry supervisor. In cases respiratory protection is required, the entrant must have evidence of current fit testing and training. Entrants will be instructed in the use of the designated personal protective equipment. Any external barriers needed to protect entrants from external hazards will be explained and used.
- When an attendant/rescuer is required, authorized entrants will be instructed to exit the space, when the attendant/rescuer orders an evacuation, when an automatic alarm (e.g., gas meter, fire

alarm) sounds, or when the authorized entrant recognizes any warning sign or symptom of exposure to a dangerous situation. The only exception to the entrants following these directions would occur when the entrant is unable physically to evacuate on their own power.

Authorized Attendant Rescuer

Prior to being eligible to obtain an entry permit, authorized entrants will be trained. This training must be repeated if a new hazard has been created or special deviations have occurred. This training must be documented for the specific duties below and forwarded to the Safety Director for filing.

- Continuously maintain an accurate count of all persons in the space.
- Be able to recognize hazards that the entrants may face in the permitted space, including information on the mode, signs or symptoms, and consequences of the exposure as well as monitor activities inside and outside the permit space to determine if it is safe for entrants to remain in the space.
- Be aware of possible behavioral effects (i .e. disorientation, faulty judgment) of hazard exposure in authorized entrants.
- Provide the entrants with and maintain an effective and continuous means of contact with the authorized attendant/rescuer during entry. This may range from voice communication to radio communication. Other means may be used as deemed appropriate and effective by the authorizer.
- Be trained as an authorized entrant.
- Receive instruction and demonstrate proficiency with the evacuation equipment.
- Will order immediate evacuation of entrants from permitted spaces when any of the following conditions arise:
    - When the attendant/rescuer observes a condition which is not allowed in the entry permit
    - The attendant/rescuer detects behavioral effects of hazard exposure
    - The attendant/rescuer detects a situation outside the space which could endanger the entrants
    - The attendant/rescuer detects an uncontrolled hazard within the permit space
    - The attendant/rescuer must leave the workstation
- Will take the following actions as necessary when an unauthorized person approaches or enters a permit space while entry is underway:
    - Warn the unauthorized person to exit immediately if they have entered the permit space
    - Inform the authorized entrants and the designated entry supervisor if an unauthorized person entered the permitted spaces. The attendant/rescuer may also contact the Security Department to request immediate assistance from a security officer.
- Will not enter the permit space to attempt a rescue of entrants. Attendant/rescuers that are part of the rescue team can only enter the space as a rescuer when at least one other member of the rescue team is at the scene and the attendant/rescuer is relinquished of duties by another trained attendant/rescuer. At no time will the site be left without an attendant.
- Will only be allowed to monitor one permit entry space at a time. No Exceptions.
- Rescue equipment will be provided to use without entering the space. Attendant/rescuers will be trained in the proper use of such equipment and demonstrate ability to use that equipment prior to being designated an attendant/rescuer.
- Monitoring of multiple confined spaces by single attendant is not allowed.

Entry Supervisor

Prior to being eligible to obtain an entry permit, authorized entrants will be trained. This training must be repeated if a new hazard has been created or special deviations have occurred. This training must be documented for the specific duties below and forwarded to the Safety Director for filing.

- Be trained in the same procedures as attendant/rescuers and entrants.
- Use only the WCMC permit and determine that all pertinent information is noted on the permit. The supervisor will determine that the necessary procedures, practices and equipment for safe entry are in effect before allowing entry.
- Determine, at appropriate intervals, which entry operations remain consistent with the terms of the entry permit and that acceptable entry conditions are present.
- Cancel the entry authorization and terminate entry whenever acceptable entry conditions are not present. Supervisors will take the necessary measures for concluding an entry operation, such as closing off a permit space and canceling the permit, once the work authorized by the permit has been completed.
- In the event of an ordered evacuation, will be required to respond to the space immediately.
- Verifies that rescue services are available and that the means for summoning them are operable.

The entry supervisor must develop procedures prior to the commencement of confined space operations for rescuing entrants from permit spaces, providing necessary emergency services for rescue, summoning rescue and emergency services, and preventing unauthorized personnel from attempting a rescue.

Rescue/Emergency Services Team
Rescue team members will be designated and trained in personal protective equipment, including appropriate respirator protection and equipment necessary for making rescues.
This training must be repeated if a new hazard has been created or special deviations have occurred.
This training must be documented and forwarded to the Safety Director for filing.

Rescue services are (1) provided by the host facility; or (2) provided by an outside service which is given an opportunity to examine the entry site, practice rescue and decline as appropriate; or (3) provided by the employer by selecting a rescue team that is equipped and trained to perform the needed rescue services

D. PROCEDURE
The confined space entry permit must be terminated when any of the following conditions cannot be met.

1. The supervisor shall evaluate the workplace to determine if any spaces are permit-required confined spaces, provided that owner requirements are met. If the workplace contains permit spaces, the supervisor shall inform exposed employees by posting danger signs (or by any other equally effective means) of the existence and location of and the danger posed by the permit spaces.
2. All persons involved in the confined space entry must first obtain instructions from their supervisor and a confined Space Entry Permit form (see Exhibit A). The permit is to be completed in its entirety before any work in a confined space begins. Should the job last longer than one shift a new permit must be issued at the beginning of each shift. The permit must be posted at the confined space entrance in order to warn others that an employee is working in the confined space.
3. The supervisor and/or on-site safety supervisor must determine that the confined space area is segregated from pedestrians, vehicles & other equipment as necessary to protect entrants from external hazards by the use of safety barriers. He shall also verify that the air is safe to breath and work in before entering. The supervisor must make an evaluation of the following conditions using a properly calibrated air monitoring device before entering and continuously while the confined space is occupied. Before entry into the confined space can be made, forced air ventilation shall be induced for a minimum of 15 minutes, and the following atmospheric conditions must be met:
    a. Oxygen level ranges between 19.5% - 23.5%.
    b. Combustible gas less than 10% LEL.
    c. Toxic gas (hydrogen sulfide) less than 10 ppm.
    d. Toxic gas (Sulfur dioxide) less than 2 ppm.
    e. Chlorine gas less than 0.5 ppm.
    f. Carbon monoxide less than 35 ppm.
    g. Other-contact owner for hazards that may exist.

    Entrants or their representatives are encouraged to participate and review calibrated air monitoring data, and the completed permit before entry.

    Entrants or their representatives shall request additional monitoring if there is reason to believe changes have occurred, or at any time they feel it is necessary to provide a safe work environment.

4. Obtain any available information regarding confined space hazards and entry operations from the owner prior to entry. Know the hazards that may be faced during entry, including information on the method of entry, signs or symptoms, and consequences of the exposure.
5. All confined spaces shall be ventilated prior to entry. All ports available shall be opened to provide adequate circulation. Forced air ventilation shall remain in operation continuously while entrants are in the confined space.
6. The atmosphere within the employee's immediate area shall be continuously monitored for oxygen, hydrogen sulfide and combustible gas and any other gases encountered while in the confined space.

7. In the event the audible alarm or alarm and flashing lights on the monitoring device are activated, the person in the confined space must exit the space immediately. The exception to this rule is if the person is wearing a positive pressure respirator, such as a SCBA or a Hip-Air.
8. Before working in the confined space, flange off all incoming and outgoing pipes and lockout all valves and electrical equipment in accordance to the Lockout/Tagout procedure.
9. Lifelines and safety harnesses (lifeline must be attached to the '0' ring located in the center of the back) shall be worn by anyone entering the confined space, with the retrieval end attached to a fixed point outside of the confined space entrance. A mechanical device must be available to retrieve personnel from a vertical type permit space more than five feet deep. A watch person must remain outside of the confined space at all times in a position to handle the safety line and to summons assistance in case of an emergency. At no time shall a person enter the confined space for rescue purposes without an approved respirator, a lifeline, safety harness, and someone located outside the confined space.
10. The watch person must continuously maintain an accurate account of authorized entrants in the permit space and communicate with the attendant as necessary. Communication enables the attendant to monitor the entrant's status that will enable the attendant to alert entrants of the need to evacuate the space.
11. A means of communication shall be in place and operable to summon rescue.
12. Before each entry is made the rescue service shall practice making a permit space rescue, by means of simulated rescue operations in which they remove dummies, manikins, or actual persons from the actual permit space. Contracted rescue services must be given an opportunity to examine the entry site, practice rescue, and decline as appropriate. Reliance on the client host rescue services must be stated on the permit and agreed to in contract language. Rescuers will have PPE provided at no cost and training and practice rescue sessions at least yearly.
13. All unauthorized persons approaching a confined space or entering a confined space must be warned to exit immediately.
14. Smoking is prohibited inside of and within twenty (20) feet of the confined space.
15. All persons assigned to enter a confined space must review with their supervisors all light sources to determine if the equipment is adequate and safe to use within the confined space.
16. A minimum of one (1) person trained in First Aid and CPR should remain in the immediate area of the vessel while the operation is taking place. The person is not to be part of the operation(s) taking place inside the vessel. First Aid/CPR certified personnel must be contacted prior to entry of the vessel.
17. Any Hot Work (i.e., welding, cutting and grinding, etc.) is not permitted when the confined space contains combustibles.
18. At least one 20 lb. ABC multipurpose fire extinguisher must be available in the immediate area of a confined space at all times.
19. All personnel involved in the confined space entry shall be trained in the use of the harness, lifeline, respiratory, and monitoring equipment. This training must be documented and forwarded to the Safety Director for filing.
20. Provisions and procedures for protection of employees from external hazards including, but not limited to pedestrians & vehicles must be met and documented.
21. Additional refresher training must be provided under the following three situations:
    a. When there is a change in an employee's assigned duties;
    b. When there is a change in a confined space operation that presents a hazard for which employees have not been trained;
    c. When the employer believes there are deviations from the permit-required confined space entry procedures, or there are inadequacies in the employee's knowledge or use of these procedures.
22. When employees of another employer (subcontractor) perform work that involves permit space entry they shall comply with the confined space entry standard 1910.146. The Entry Supervisor shall coordinate entry operations when employees of more than one employer are working simultaneously as authorized entrants in a permit space, so that employees of one employer do not endanger the employees of any other employer.
23. The Entry Supervisor will officially cancel the entry permit once all personnel have exited the space and the space is secured from further entry. The cancelled permit will be forwarded to the E-CON ELECTRIC, INC manager for review and filing for a minimum of one year.
24. Rescue service must be on-site for immediately dangerous to life and health (IDLH) conditions while work is being performed.

NOTE: IF THERE ARE ANY QUESTIONS OR CONCERNS REGARDING YOUR UNDERSTANDING OF THESE PROCEDURES, SEE YOUR DIRECT SUPERVISOR OR ON-SITE SAFETY SUPERVISOR IMMEDIATELY!

E. REVIEW OF CONFINED SPACE ENTRY PERMITS

1. E-CON ELECTRIC, INC Manager and the Director of Safety Review the permit space program, using canceled permits, within 1 year after each entry and revise the program as necessary, to ensure that employees are protected. This may be a single annual review covering all entries performed during a 12-month period. If no entry is performed during a 12-month period, no review is necessary.

2. Additionally, a formal review shall take place any time there is an anomaly with a permit-required entry. Examples of such anomalies are: an unauthorized entry, a hazard is discovered that wasn't covered by the permit, an injury or near miss, or employee complaints. No further confined space entries shall be conducted **until** the review and any required revisions to the permitting program are completed, and employee retraining is complete.

3. E-Con Electric shall review the confined space program within one year and revising the program as necessary.

F. MULTIPLE EMPLOYEERS

1. If Multiple Employers are required to work in the same confined spaces. Each Employer must provide their own confined space permit. E-Con Electric does not and will not allow anyone to under a confined space under another employer or contractors permit that was issued by other than E-Con Electric or issued for specifically E-Con electric. Inc

CONFINED SPACE ENTRY PERMIT

Date: _____
Facility: _____
Location and Description of Confined Space: _____
Purpose of Entry: _____
Emergency Phone Number: _____ Time: _____ AM/PM
Department: _____ Shift: _____ Expiration: _____ AM/PM

CONFINED SPACE PREPARATION (SPECIAL REQUIREMENTS)	YES	N/A	Supervisor's Initials
1. Pre-Entry Meeting held (including supervisor in area of work			
2. Lockout/Tagout (follow lockout/tagout procedure			
3. Block off all pipes, hoses, ducts, etc.			
4. Area ventilated continuously			
5. Purged (drained, washed, properly cleaned			
6. Secured area (signs, barricades, guardrails, etc.			
7. Welding Permit (hot work			
8. Physical hazards present (heat, obstructions, etc.			
9. Personnel needed (rescue/other owner requirement.			
10. Did each employee receive training in confined space entry? (Documentation attached			

APPROPRIATE SAFETY EQUIPMENT AVAILABLE FOR USE	YES	N/A	Supervisor's Initials
1. Personal Protective Equipment (boots/gloves/coveralls/face shield/etc.)			
2. Respirators (Comfo II, SCBA, Hip Air, etc.)			
3. Rescue Equipment (harness, lifeline, tripod, etc.)			
4. Lighting - ground fault circuit interrupters			
5. Fire extinguishers at entrance			
6. Communication (voice, visual, radio).			
7. Ladders access and egress			

ATMOSPHERIC TESTS	READINGS	N/A (REASONS)	SUPERVISOR'S INITIALS
% of Oxygen O_2 (19.5%-23.5%)			
% Flammability (LEL<10)			
Hydrogen Sulfide H_2S (TLV<10ppm)			
Carbon Monoxide CO (TLV<35 ppm)			
Chlorine CL (TLV<0.5 ppm)			
Sulfur Dioxide SO_2 (TLV<2 ppm)			
Other			

Re-tests needed and frequency: _____

Employee entering: _____ Employee Entering: _____
Employee entering: _____ Employee Entering: _____
Attendants (watch person and rescue team:

*NOTE Non-combustible gas (Argon, Nitrogen, Helium, etc.) causes Oxygen deficiency. Continuous monitoring required during these products.

All necessary conditions and/or preparations have been satisfied and I certify that the safety guidelines for Confined Space Entry have been followed. When work is completed, the permit shall be filed in the job-site office and kept for one year after entry has been made.

SIGNED: _____ SIGNED:: _____
(supervisor monitoring safety) (supervisor in charge of job)

ALL INFORMATION ON THIS FORM SHALL BE COMPLETED PRIOR TO ENTRY OF THE CONFINED SPACE

Confined Space Entry Procedure

Definition

Confined space - any area that is difficult to enter, leave, or work in, and is not intended for full-time employee occupancy. Confined spaces include, but are not limited to such areas as: storage vessels, furnaces, railroad tank cars, manholes, bulk material hoppers, water towers, autoclaves, and boilers.

Policy

The main purpose of all confined space entry standards is to protect the people working in confined spaces where toxic, explosive, and asphyxiating atmospheres may exist and from possible engulfment by loose materials.

If at **least** one (1) of the four (4) following conditions exist in the designated work area, it is considered a confined space:

1. Contains or has the potential to contain a **hazardous atmosphere**;
2. Contains a material that has the potential for **engulfing** an entrant;
3. Has an internal configuration such that the entrant could be trapped or **asphyxiated**;
4. Contains any other recognized **serious safety or health hazard**.

All employees of **E-Con Electric Inc** are **prohibited** from entering a confined space until a confined space entry permit is issued and signed by the client's entry supervisor in charge of that confined space work area.

Anyone working within a confined space should take necessary precautions to guard against this hazard. This would include independent subcontractors as well.

Company procedure at **E-Con Electric Inc** requires that at **least** these minimum criteria be met prior to commencing any work:

1. Testing and continuously monitoring conditions in the permit space;
2. Stationing an attendant outside the permit space during entry and while work is being performed in the confined space. The responsibilities of the attendant are as follows, but not limited to:
   - **A.** Monitoring authorized entrants in the confined space;
   - **B.** Being familiar with the hazard(s) in the confined space and the behavioral effects of the hazard(s);
   - **C.** Staying in contact with entrants making sure they are not experiencing any negative effects;
   - **D.** Ordering entrants out of the confined space if deemed necessary;
   - **E.** Summoning rescuers, preventing unauthorized entry, and performing **non-entry** rescues;
   - **F.** Staying in position and **not** attempting any entry of the confined space, should any rescue situation occur;
   - **G.** **Not** performing any other duties that might divert attention away from monitoring and protecting the safety of the authorized entrants of the confined space.
3. Establishing procedures to summon rescuers and prevent unauthorized personnel from attempting any rescue;

4. Requiring a permit including the following information:
    - **A.** Identification of the space;
    - **B.** Purpose of the entry;
    - **C.** Date and duration of the permit;
    - **D.** List of authorized entrants;
    - **E.** Names of current attendants and entry supervisor;
    - **F.** List of hazards in the permit space;
    - **G.** List of measures to isolate permit space and eliminate or control hazards;
    - **H.** Explanation of acceptable entry conditions;
    - **I.** Results to test, including initials;
    - **J.** Rescue and emergency services and means to summon such services;
    - **K.** Communication plan for entrants and attendants;
    - **L.** List of required equipment (i.e., respirators, communication systems, lighting, alarms);
    - **M.** Any additional permits required (i.e., hot work, lock out/tag out);
    - **N.** Any other necessary information, as required.

    Note: If work is stopped or interrupted by a change in conditions, the original permit must be **canceled**, and a **new** permit issued following the standard procedure.
5. Training employees to ensure initial understanding, with annual refresher training, as mandated by the standard;
6. Requiring the people involved in confined space entry know and do the following:
    1. Know the hazards they face;
    2. Recognize signs or symptoms of exposure;
    3. Understand the consequences of exposure;
    4. Know the use of any needed equipment;
    5. Have passed medical tests required to wear needed equipment;
    6. Communicate with attendants, as necessary;
    7. Exit as quickly as possible whenever ordered or altered by alarm, warning sign, prohibited condition, or other;
    8. The entry supervisor must verify that all conditions and procedures have been met before he/she signs the permit for work to begin.
7. Ventilating the confined space and monitoring the atmosphere at all times. Employees must wear all necessary personal protective equipment and follow permit procedures **every** time they enter the confined space;
8. Providing explosion proof lighting inside the confined space (12 volt or battery powered/or with ground fault interrupters);
9. Testing the atmosphere inside the confined space, before each shift change and after each work interruption, to ensure the following ranges: oxygen 19.5% to 22.0%, hydrogen sulfide 0%, and explosive vapors 0%;
10. Requiring personnel entering confined spaces to wear a safety body harness with life line attached, to permit rapid exit or rescue;
11. Ensuring all electrical power has been locked out and tagged out, and all process lines, including sewer and drain connections have been discontinued or otherwise plugged;
12. Locking out and tagging out all power driven and agitating equipment serving the confined space;
13. Requiring that personal protective safety equipment be worn in areas other than the confined space and that equipment may include respirators, fire retardant clothing, or rubber steel-toed boots.

CONFINED SPACE ENTRY PERMIT

Date: _____
Facility: _____
Location and Description of Confined Space: _____
Purpose of Entry: _____
Emergency Phone Number: _____ Time: _____ AM/PM
Department: _____ Shift: _____ Expiration: _____ AM/PM

CONFINED SPACE PREPARATION (SPECIAL REQUIREMENTS)	YES	N/A	Supervisor's Initials
1. Pre-Entry Meeting held (including supervisor in area of work			
2. Lockout/Tagout (follow lockout/tagout procedure			
3. Block off all pipes, hoses, ducts, etc.			
4. Area ventilated continuously			
5. Purged (drained, washed, properly cleaned			
6. Secured area (signs, barricades, guardrails, etc.			
7. Welding Permit (hot work			
8. Physical hazards present (heat, obstructions, etc.			
9. Personnel needed (rescue/other owner requirement.			
10. Did each employee receive training in confined space entry? (Documentation attached			

APPROPRIATE SAFETY EQUIPMENT AVAILABLE FOR USE	YES	N/A	Supervisor's Initials
1. Personal Protective Equipment (boots/gloves/coveralls/face shield/etc.)			
2. Respirators (Comfo II, SCBA, Hip Air, etc.)			
3. Rescue Equipment (harness, lifeline, tripod, etc.)			
4. Lighting - ground fault circuit interrupters			
5. Fire extinguishers at entrance			
6. Communication (voice, visual, radio).			
7. Ladders access and egress			

ATMOSPHERIC TESTS	READINGS	N/A (REASONS)	SUPERVISOR'S INITIALS
% of Oxygen O_2 (19.5%-23.5%)			
% Flammability (LEL<10)			
Hydrogen Sulfide H_2S (TLV<10ppm)			
Carbon Monoxide CO (TLV<35 ppm)			
Chlorine CL (TLV<0.5 ppm)			
Sulfur Dioxide SO_2 (TLV<2 ppm)			
Other			

Re-tests needed and frequency: _____
Employee entering: _____ Employee Entering: _____
Employee entering: _____ Employee Entering: _____
Attendants (watch person and rescue team:

*NOTE Non-combustible gas (Argon, Nitrogen, Helium, etc.) causes Oxygen deficiency. Continuous monitoring required during these products.

All necessary conditions and/or preparations have been satisfied and I certify that the safety guidelines for Confined Space Entry have been followed. When work is completed, the permit shall be filed in the job-site office and kept for one year after entry has been made.

SIGNED: _____ SIGNED:: _____
(supervisor monitoring safety) (supervisor in charge of job)

ALL INFORMATION ON THIS FORM SHALL BE COMPLETED PRIOR TO ENTRY OF THE CONFINED SPACE

Confined Space Entry Permit

Drug and Alcohol Program - Transportation

Drug and Alcohol Program - Transportation

E-Con Electric Inc has a policy on the misuse of alcohol and use of controlled substances. All drivers and employees required to have a commercial driver license (CDL), and operate a commercial motor vehicle are affected by this policy and program. Participation is a requirement of employment.

This policy extends to employees in safety-sensitive functions that include driving and making decisions or actions that affect the safe operation of a commercial motor vehicle such as preparing a commercial motor vehicle for safe use.

Each affected employee is subject to the provisions of this program during all periods of the work day. This means all time from the time a driver begins to work or is required to be ready to work until the time he/she is relieved from work and all responsibilities for performing work.

Any affected employee found to be in violation of this policy will be restricted from driving or from performing a safety-sensitive function and subject to disciplinary action, which may include termination.

Prohibited Conduct - Alcohol
An employee/driver is not permitted to continue working under any of the prohibited conduct which is listed below.

- Alcohol concentration: A driver is not allowed to report for duty or remain on duty requiring the performance of safety-sensitive functions while having an alcohol concentration of 0.04 or greater. A driver having an alcohol concentration of 0.02 or greater, but less than 0.04, is not permitted to continue to perform safety-sensitive functions until 24 hours following the administration of an alcohol test. At the discretion of the company, disciplinary actions to include termination may result when the alcohol concentration of 0.02 or greater is found.
- On-duty use: A driver is not allowed to use alcohol while performing safety-sensitive functions.
- Pre-duty use: A driver is not allowed to perform safety-sensitive functions within four hours after using alcohol.
- Following an accident: No driver required to take a post-accident alcohol test is permitted to use alcohol for eight hours following the accident, or until he/she undergoes a post-accident alcohol test, whichever occurs first.

Prohibited Conduct - Controlled Substances
An employee/driver is not permitted to report for work or remain at work that requires performing safety-sensitive functions when using any controlled substance, except when the use is at the instruction of a physician who has advised that the substance does not adversely affect the ability to safely operate a commercial motor vehicle.

An employee/driver is not permitted to report for work, remain at work or perform a safety-sensitive function, if they test positive or have adulterated or substituted a test specimen for controlled substances.

Required Testing
The company has arranged with _____ to assure that all testing is conducted according to Part 40 of the Department of Transportation rules. While we are not required to do so, the company will generally pay for the required tests.

The circumstances under which a driver will be tested for alcohol and/or controlled substances include:

- Pre-Employment: This test is required and negative results must be received before the company allows a person to drive a commercial vehicle or perform a safety sensitive function. The pre-employment test is only required for controlled substances although alcohol testing might be included.
- Post-Accident: This applies to all CDL drivers involved in a fatal motor vehicle crash. The test must also be conducted on all CDL drivers who are cited for moving violations arising in a crash that requires a vehicle being towed, or an injury requiring medical attention away from the scene. The alcohol test must be done within 8 hours and the controlled substances test must be done within 32 hours of the crash. If a test is not completed within the required time after an accident, the company will prepare and maintain file with a record stating the reasons the test was not done.
- Random Testing: A random unannounced test can be done just before, during, or just after performance of safety-sensitive functions. A driver is randomly selected for testing from a "pool" of drivers. The number of random tests conducted is 10% for alcohol testing and 50% for drug testing. Once notified of selection for testing, a driver must proceed immediately to accomplish the test.
- Reasonable Suspicion Testing: Required when a trained supervisor/employer has reasonable suspicion to believe that the driver has used alcohol and/or controlled substances.
- Return-to-Duty and Follow-Up: These unannounced tests must be conducted if an individual who has violated the prohibited alcohol conduct standards returns to performing safety-sensitive duties. At least 6 tests are done in the first 12 months if a driver is permitted to return to work.

Alcohol Testing Procedure
Screening tests will be conducted using saliva devices or breath testing using testing devices approved by the National Highway Traffic Safety Administration.

The alcohol test may be administered by a qualified employee of the company or by contract services, or by a service through a consortium of member companies.

Two tests are required to determine if a person has a prohibited alcohol concentration. First, a screening test is conducted by a qualified screening test technician. Any result less than 0.02 alcohol concentration is considered a "negative" test. If the alcohol concentration is 0.02 or greater, a sE-Con Electric, Incd confirmation test will be done by a qualified breath alcohol technician.

Drug Testing Procedure
Drug testing is conducted by analyzing a driver's urine specimen. The analysis is performed at laboratories certified and monitored by the Department of Health and Human Services. The employee provides a urine specimen in a location that affords privacy. Direct observation by the collection administrator is required if the purpose is for a follow-up or return to duty test. The "collector" seals and labels the specimen, completes a Federal Drug Testing and Control Form, and prepares the specimen and accompanying paperwork for shipment to a drug-testing laboratory.

The drug testing rules require that drug testing procedures for commercial motor vehicle drivers include split specimen procedures. Each urine specimen is subdivided into two bottles labeled as a "primary" and a "split" specimen. Both bottles are sent to a laboratory. Only the primary specimen is opened and used for the urinalysis. The split specimen bottle remains sealed and is stored at the laboratory. If the analysis of the primary specimen confirms the presence of illegal, controlled substances, the driver has 72 hours to request the split specimen be sent to another approved laboratory for analysis. This split specimen procedure essentially provides an opportunity for a "sE-Con Electric, Incd opinion".

All urine specimens are analyzed for the following drugs:

- Marijuana (THC metabolite)
- Cocaine
- Amphetamines (Amphetamine, Methamphetamine, MDMA (Ecstasy), MDA & MDEA)
- Opiates (including Codeine, Morphine, 6-AM (Heroin metabolite))
- Phencyclidine (PCP)

The testing process ensures that over-the-counter medications or preparations are not reported as positive results.

Medical Review
All drug test results are reviewed and interpreted by a physician (Medical Review Officer-MRO) before they are reported to the employer. If the laboratory reports a positive result to the MRO, the MRO contacts the driver (in person or by telephone) and conducts an interview to determine if there is an alternative medical explanation for the drugs found in the driver's urine specimen. If the driver provides appropriate documentation and the MRO determines that it is a legitimate medical use of the prohibited drug, the drug test result is reported as negative to the employer.

Confidentiality
Test results and other confidential information may be released only to the company and a substance abuse professional. Testing results and records are maintained under strict confidentiality by the company, the drug-testing laboratory, and the medical review officer. Any other release is only done with the affected employee's written consent. There are limited exceptions to this confidentiality provision such as for litigation or administrative proceedings arising from a positive drug test.

Refusal to Test
As a condition of employment, employee/drivers must submit to alcohol or controlled substances testing when required by this policy. Anyone refusing to submit to a required test is not permitted to perform safety-sensitive functions, and subject to disciplinary action including termination.

The kinds of behavior that constitute a refusal to submit to a test include:

- Refusal to take the test;
- Inability to provide sufficient quantities of breath, saliva, or urine to be tested without a valid medical explanation;
- Tampering with or attempting to adulterate the specimen;
- Interfering with the collection procedure;
- Not immediately reporting to the collection site;
- Failing to remain at the collection site until the collection process is complete;
- Having a test result reported as adulterated or substituted; or
- Leaving the scene of an accident without a valid reason before the tests have been conducted.

Treatment
When you have violated DOT drug and alcohol regulations, you have violated a condition of employment. You cannot again perform any DOT safety-sensitive duties for any employer until you complete a Substance Abuse Professional's evaluation, referral, and education/treatment process. The company will provide a listing of Substance Abuse Professional's available to you, however, the company is generally under no obligation to pay for any of their services to include an evaluation or any subsequent recommended education or treatment for a person who has violated a DOT drug and alcohol regulation.

Education
Alcohol and controlled substances can affect a person's physical response, impairs mental functions, and can result in serious health consequences. Fact sheets are available concerning the effects of alcohol and controlled substances use on an individual's health, work, and personal life, along with signs and symptoms of an alcohol or a controlled substances problem.

The company encourages appropriate interventions when an alcohol or a controlled substances problem is suspected. All employees and co-workers have the ability to communicate their concerns to a supervisor or manager. Supervisors of commercial drivers and transportation safety sensitive employees are provided special training to recognize when a person should be referred for testing based on a reasonable suspicion according to the signs and symptoms of alcohol misuse and or controlled substance use.

_____ is designated by the company to answer your questions about the drug and alcohol program.

This document is provided to all employee/drivers affected by this policy. A signed acknowledgement for receiving a copy of this policy will be retained by the company.

Certificate of Receipt

(Mandatory for Commercial Drivers)

I have received a copy of E-Con Electric Inc**'s** controlled substances and alcohol policies and procedures.

Please sign and return this certificate. This original signed certificate will be maintained by the company.

Date

Driver's Signature

Driver's Name (printed)

Emergency Action Plan Program

Emergency Action Plan

I. Purpose

The purpose of this Emergency Action Plan is to protect the employees of **E-Con Electric Inc** from serious injury, property loss, or loss of life in the event of a major disaster. A major disaster constitutes any one (1) of the following: fire, tornado, earthquake, bomb threat, or hazardous chemical spill.

In the event of any disaster listed, this Emergency Action Plan describes the responsibilities and actions to be taken to protect all employees.

II. General Procedures

In the event of a disaster, the warning may come from any one (1) of the following sources: commercial radio or television, civil defense radio, in-plant automatic sprinkler system, in-plant alarm, messenger, or police.

A. Notification of Early Warning
A person receiving notification of a possible disaster, or an in-plant emergency should immediately notify their immediate supervisor. The type of disaster or emergency situation should then be conveyed to all employees with the use of the plant emergency alarm system.

B. Emergency Control Committee
The following personnel of **E-Con Electric Inc** will constitute the Emergency Control Committee (ECC). In the event of a disaster or immediate emergency, they are to report to a designated Emergency Control Center unless the prevailing situation dictates otherwise. Committee members are:

1. Manager _____
2. Personnel Director _____
3. Safety Director _____

Responsibilities - Emergency Control Committee

1. Assess nature and extent of all emergencies;
2. Assume control of all emergency actions;
3. Assign tasks to personnel to carry out specific actions;
4. Order evacuation if deemed necessary;
5. Take any other action necessary to protect life;
6. Annually review plan and revise as necessary;
7. Plan training exercises to test evacuation plan; and
8. Instruct personnel of their duties under this plan.

In any emergency situation, the ranking member of management present shall have final authority to coordinate procedures, and amend, modify, or supersede any provisions of this plan in order to ensure employee safety.

C. Emergency Control Center
Emergency actions should be coordinated at the Emergency Control Center which will be designated as the manager's office. If this office is not available, report to the most convenient office of the other two (2) committee members.

If the emergency situation warrants the committee members to meet on the plant floor, it will be the plant manager's responsibility to notify, and give the location where members are needed.

D. First Aid Services
All first-line supervisors have been certified by the American Red Cross to provide first aid. They will be available to administer first aid in the plant, or in the event of a complete evacuation at a safe assembly area outside the plant.

E. Utility Controls
All maintenance personnel will know the location and operation of main controls for shutting off the gas, electricity, and water leading into the building.

F. News Information
Information to any source of news media will only be released at the discretion of the plant manager.

III. Emergency Alarms

A. Automatic Sprinkler Alarm
In the event of a fire, the Automatic Sprinkler Alarms System will be activated automatically. Upon activation, the flow of water will begin in the area of the fire, and an alarm will sound throughout the building. Upon hearing the alarm employees should, if time permits, shut off the power to the equipment they are operating and proceed to the evacuation sites indicated outside the building and conduct a roll call.

B. Action
When the alarm is activated, at least one (1) member of the ECC should report to the evacuation site outside the plant. The other members should take the necessary action to ensure the safety of the employees and notify proper agencies for any services that are needed.

C. Plant-wide Evacuation Alarm (Continuous High Pitched Alarm)
With the exception of a fire, employees should not evacuate the building unless authorized by the ECC. The signal/alarm for a plant-wide evacuation will be a continuous high-pitched alarm. Once at the assembly site, the first-line supervisor should conduct a roll call and report to an ECC member for assistance.

D. The signal/alarm for a segmented area evacuation will be an intermittent high-pitched alarm. A first-lie supervisor will have the authority to activate this alarm and give appropriate instructions to employees to insure safety. Before leaving, the first-line supervisor should inspect the area to ensure all employees are evacuated. Evacuated employees should report to the assembly site posted inside the building. Once at the assembly site, the first-line supervisor should conduct a roll call and report to an ECC member for assistance.

E. Phone Listings
A listing of all emergency telephone numbers is located at plant and office telephones. If the emergency occurs on the day shift, the switchboard operator will be responsible for contacting the appropriate agency. A member of the ECC should then be contacted for assistance.

IV. Evacuation Sites

A map of all evacuation sites will be displayed in the lunch room and all departments. Each map shows the route and exit to take, depending where employees are located in the plant. It will be the responsibility of the first-line supervisor to inform employees of these evacuation routes.

V. Procedure for Emergency Shutdown of Operations

An emergency shutdown will only be ordered from the highest ranking member of the ECC. No employee should risk any type of injury to accomplish this task. However, if time permits, the following personnel should perform the following duties:

A. All warehouse personnel and material handling personnel should drive forklift trucks out of aisles and exit ways.

B. Maintenance department should shut off gas lines and electrical supply as instructed by the maintenance manager.

VI. Tornado

In the event of a tornado or a severe weather warning, the following procedure should be put into effect by the supervisor or ECC:

A. Listen for latest advisories on radio.
B. Post outlooks for outside observation.
C. If necessary, initiate emergency shutdown procedures.
D. Move personnel into designated safe assembly areas with the building.
E. Open any door or window where possible to equalize pressure.
F. After tornado passes, restore calm and check for injuries.

VII. Earthquake (Intermittent Alarm)

An earthquake will usually occur without any type of warning. Due to the suddenness, all personnel should attempt to get into a doorway passage or under a table or desk. Any place where an employee feels safety is warranted. **No one should go outside the building**. After an earthquake has stopped, the following procedure should be initiated.

A. All employees should help restore calm to fellow employees.
B. Emergency Control Committee and first-line supervisors should check for injuries and provide first aid as needed.
C. The maintenance department should check for fires and shut off all gas, electricity, and water at main controls.
D. The building should be inspected by a member of the ECC for damage. If major structural damage has occurred, the ECC should order a complete evacuation.
E. The ECC should then notify proper utility companies or other services as needed.

VIII. Bomb Threat (Continuous High-Pitched Siren)

In the event of a bomb threat, which will normally be received over the telephone, the following procedure should be followed:

A. The person receiving the bomb threat should complete the attached **Bomb Threat Checklist** as soon as possible and answer questions once the report has been turned over to the ECC.

B. The ECC shall determine the appropriate procedures to be taken among the following:

1. Commence immediate plant wide evacuation to outside evacuation sites.

2. Contact proper law enforcement agencies.

3. Contact the fire department.

4. Do not permit re-entry until the building has been searched and declared safe by bomb disposal unit.

C. If a bomb threat is received by any other means than the telephone, the person receiving the threat should report immediately to their first-line supervisor or a member of the ECC.

IX. Fire Prevention and Workplace Hazards

A. It is the responsibility of all employees to prevent any type of fire in the building. Listed below is a list of general items to take into consideration to accomplish this objective:

1. Extinguish all cigarettes in their proper place.

2. Do not have open flame around any type of chemicals, paints, solvents, or flammables.

3. Make sure all hand held torches are extinguished when not in use.

4. Do not put any type of hot object, such as cigarette butts, in trash cans.

B. Listing of Some Workplace Hazards

1. Flammable substances:

a. Paint and paint solvents

b. Mineral spirits

c. Alcohol

d. Propane tanks for forklift trucks

e. Oxygen and acetylene tanks

f. Hydraulic oil

g. Grease

2. Welding Operations

a. All welding operations will be done in a confined area unless, otherwise instructed by the maintenance manager. A fire extinguisher will be immediately available in case of an emergency.

X. Control of Workplace Hazards

A. All flammable and combustible materials will be stored in a designated area or flammable storage area.

B. Good housekeeping will be the responsibility of **all** employees.

1. Waste materials are to be discarded in their proper places.
2. Operators are to pick up and sweep any debris on or around their machine on a shift to shift basis.
3. All aisles and exits will be kept clear.
4. All painted areas to fire extinguishers will be kept clear for access.
5. All employees will know evacuation routes and exits to proceed to when instructed, if an emergency situation develops.
6. All employees will be instructed on E-Con Electric Inc Emergency Action Plan.
7. Emergency telephone numbers will be posted at the main receptionist desk, offices of ECC members, and first-line supervisors.
8. Each first-line supervisor will be responsible for their shift employees to handle, store, and maintain hazardous materials properly.

XI. Maintenance of Fire Equipment and Systems

A. Maintenance Manager Responsibilities

1. To have monitoring company run monthly checks of the water sprinkler system.
2. Maintenance department will conduct monthly inspection of fire extinguishers and blanket locations.
3. An outside safety firm will run annual checks on all fire extinguisher equipment.

PROCESS SAFETY MANAGEMENT PROGRAM (PSM)

1. The purpose of the PSM Program is to prevent or minimize consequences of catastrophic releases of toxic, reactive, flammable or explosive chemicals in various industries such as refineries, pipe lines, etc.
2. E-CON ELECTRIC, INC shall:
    a. 1. Train each employee and contractor employee on the purpose of the PSM Program.
    b. Verify that each employee and contractor employee is properly trained in his/her work practices required to safely perform their job. All trained shall be documented.
    c. Instruct each employee and contractor employee in the known potential fire, explosion or toxic release hazards related to their job, and the process and provisions of the emergency action plan. Applicable MSDS sheets will be covered in this training. Verify understanding by a written or oral exam.
    d. Document 1&2 above. Such records shall contain sufficient detail that includes the identity of the employee, date of training, and method used to verify the employee understood the training.
    e. Require contractor employees abide by the employers safe work practices and safety procedures (LOTO, Confined space entry, etc.)
3. Pertinent safety information for each hazardous chemical is found on applicable MSDS sheets provided by the manufacturer.
4. Contract employee's will:
    a. Abide by the employers safe work practices and safety procedures must be followed during operation such as lockout/tagout, confined space entry, opening process equipment or piping and control over entrance to facility.
    b. Advise the employer of any unique hazards resulting from the contractors work.
    c. Advise the employer of any hazards found by the contract employees within or outside the scope of their work.
    d. Abide by the employers hot-work program. No hot work shall be done until the employer issues a hot-work permit.
    e. Be instructed in the known potential fire, explosion or toxic release hazards related to his/her job and the process and the applicable provisions of the emergency action plan.
    f. Respect the confidentiality of trade secret information when process safety information is released to them.
    g. Trade secret information and confidentiality of trade secret information shall be maintained by employee.
5. ACCIDENTS AND NEAR MISSES
    a. All Company employees and contractor employees shall immediately report all accidents and near misses to the on-site supervisor. The on-site supervisor will immediately take steps to ensure the safety of all employees, and report the details of the accident or near miss to the Program Manager and Director of Safety.
    b. The Program Manager and Director of Safety will initiate an investigation as to the circumstances of the accident or near miss within 24 hours. This investigation and corrective actions or resolutions will be adequately documented and will be maintained on file by the Director of Safety for no less than 5 years.

Emergency Telephone Numbers

of

E-Con Electric Inc

Emergency Number _____
(Fire, Police, Ambulance)

Police Department _____

County Sheriff _____

State Police _____

FBI _____

Poison Information _____

U.S. Marshall _____

Civil Defense _____

Electrical Utility _____

Gas Utility _____

Water Department _____

Weather Information _____

Bomb Threat Checklist

Instructions: **Be Calm and Courteous.**
Listen, Do Not Interrupt the Caller.

Name of Operator: _____

Time: _____ **Date:** _____

Caller's Identity: Male Female Adult Juvenile

Origin of Call: Local Long Distance Booth Internal

A. Keep caller talking if the caller is agreeable to further conversation.

B. Ask questions like:

- When will the bomb go off?
- What is the location of the bomb?
- What kind of bomb?
- What is your present location?
- What is your name and address?
- How do you know so much about the bomb?

C. Did the caller appear familiar with the plant or building by his description of the bomb location?

D. After the call is taken, notify at once a member of the emergency control committee.

Fall Protection Program

Fall Protection

Construction is a hazardous industry where workers are exposed to varied hazards. Each operation or jobsite presents its own peculiar problems, thus no two jobs are alike. Therefore, it is not possible to formulate one set of rules to cover all the hazards that may be encountered in construction work. Ideally, the best way to protect against potential falls is to eliminate the hazards, which are present. When the hazard cannot be eliminated, a comprehensive fall management program can protect against most, if not all fall related incidents.

Regular surveys of project operations and conditions should be conducted to identify principal sources and causes of possible injury and losses due to unsafe methods and conditions. A focus on fall hazards should be increased in the following general areas and conditions:

Note: Any construction sites that require specific Fall Protection Plan to be developed must be by a qualified person.

- Steel erection
- Bridges
- Pre-fab erection
- Heavy equipment access/egress
- Hoistway enclosures
- Unsecured materials, tools, and equipment
- Open sides, floor coverings, and stairs
- Excavations
- Use of Ladders
- Scaffolds
- Elevating equipment
- Uneven/cluttered surfaces
- Roofs and Skylights

This information supports compliance with Occupational Safety and Health Administration (OSHA) Fall Protection Standard as found in 29 CFR 1926.500, 501, 502, and 503, general requirements for scaffolds in 29 CFR 1926.451, use of safety nets where other forms of fall protection are impractical in 29 CFR 1926.105, and fall protection for steel erectors working two stories or more above the ground or floor in 29 CFR 1926.750. This information applies to all company employees who work in areas where fall hazards of 6 feet or greater are possible.

Duty To Have Fall Protection
The Fall Protection Standard prescribes the duty for employers to provide fall protection, sets the criteria and practices for fall protection systems, and requires training. It covers hazard assessment, fall protection, and safety monitoring systems.

Fall Hazard Control
Each job and each jobsite should be thoroughly analyzed for potential hazards. A written program should be developed which specifies the means of dealing with identified hazards. If a hazard can be eliminated by a new work procedure, this new procedure should be specified and implemented.

The written program should indicate what types of personal protective equipment are required for the job, wherever elimination of potential hazards is impossible. The program should also indicate how the equipment is to be used and maintained. Work procedures, clearly written and communicated, should be developed detailing how each type of work is to be performed. The written program does not need to be elaborate, but should cover the basics, with essential elements clearly communicated and understood by all jobsite personnel. Fall hazard control can be broken down into fall prevention and fall protection, both being considered independently.

Fall Prevention
Fall prevention lessens the worker's exposure to a fall by minimizing potentially hazardous situations. Fall prevention planning requires forethought and supervision to assure the plan to minimize fall hazards will be executed. It is important the written policy be continuously monitored and updated during the construction project. Listing known fall hazards helps in predicting how they can be controlled. Eliminating potential fall hazards and correcting existing hazards helps to protect against accidents. Fall prevention measures include proper work area access, good housekeeping, required protection, and specially required procedures.

Fall Protection
Fall protection is a means of minimizing or protecting workers from experiencing accidental falls from elevations. Fall protection is required when, during the jobsite evaluation, a potentially hazardous condition cannot be adequately or fully minimized is recognized. Fall protections minimizes the consequences of an accident and are either passive or active.

Passive - Passive fall protection consists of systems and components that are installed before work is started on the jobsite. An example of passive protection is a safety net. Protection is achieved whether or not workers are wearing any fall arrest equipment. No action is required on the part of the worker to stop a fall. If passive fall protection is properly installed and maintained workers are protected 100% of the time.

Active - Active fall protection consists of components and systems which require specific action by the worker to achieve specific protection. Active equipment should be recognized as a means to minimize, control, or limit injuries from a fall. Active fall protection is a substitute measure, which does not actually prevent a fall.

Active fall protection products fit into four functional categories:

1. Fall Arrest - the purpose of a fall arresting system is not only to arrest the fall, but also to assure the energy gained by the body during the fall is distributed to minimize injury to the wearer.

2. Positioning - a personal positioning system holds workers in place, using positioning belts, while keeping hands free to work. A fall arrest system should be used in conjunction with the personal positioning system.

3. Suspension - the personal suspension system lowers and supports workers while allowing a hands-free work environment. A fall arrest system should be used in conjunction with the personal suspension system.

4. Retrieval/Rescue - Retrieval/rescue efforts are more effective when time is minimized between the time of the fall and the arrival of medical attention. Rescue procedures should be reviewed on a regular basis.

The latest types of fall protection equipment should be made available to employees. The complete system should be the most suitable for each particular project. The uniqueness of each jobsite requires knowledgeable supervising personnel who will make the appropriate decisions. If workers are properly trained and properly supervised, and if they use the correct equipment properly, they should be able to work at maximum efficiency at any height.

Fall Protection Plan
A Fall Protection Plan should be developed and evaluated on a site by site basis with the stated purpose of prevention of injuries associated with falls. A Fall Protection Plan should contain:

1. Location of the job, Company Name, date of preparation or modification of the plan, name of plan preparer, name of plan approver, and Name of plan supervisor;
2. Statement of Company Policy;
3. Fall protection systems to be used on this project;
4. How the Fall Protection Plan is to be implemented;
5. Other Fall Protection measures considered for this job;
6. Enforcement;
7. Plan of rescue for prompt rescue of employee in the event of a fall.
8. Accident investigation;
9. Changes to the plan.

Fall Protection Equipment
Fall protection equipment shall meet the requirements of applicable ANSI, ASTM, or OSHA requirements.

E-Con Electric Inc will assess the workplace to determine if the walking/working surfaces have the strength and structural integrity to safely support workers. Employees are not permitted to work on those surfaces until determining the surfaces have the strength and structural integrity for support. Once employers have determined that the surface is safe for employees to work on, the employer must select one of the options listed in "Construction Fall Protection Requirements" for the work operation if a fall hazard is present.

Construction Fall Protection Requirements

Type of Protection Required (29CFR 1926 Subpart M)	Guardrail Systems	Safety Net Systems	Personal Fall Arrest Systems	Covers	Positioning Devices	Fences	Barricades	Equipment Guards	Controlled Access Zone	Warning Line System/Guardrail	Warning Line/Safety Net System	Warning Line/Safety Personal Fall Arrest	Warning Line System/Safety Monitor	Safety Monitor	Fall Protection Plan
Unprotected Sides & Edges	x	x	x												
Leading Edges	x	x	x												x*
Hoisting Areas	x		x												
Holes	x		x	x											
Formwork/Reinforcing Steel		x	x		x										
Ramps, Runways, other Walkways	x														
Excavations	x					x	x								
Excavations *(wells, pits, shafts)*	x			x		x	x								
Dangerous Equipment *(less than 6 feet)*	x							x							
Dangerous Equipment *(more than 6 feet)*	x	x	x												
Overhand Bricklaying	x	x	x						x						
Overhand Bricklaying *(reaching 10" below)*	x	x	x												
Roofing Work *(low slope)*	x	x	x							x	x	x	x	x**	
Steep Roofs	x	x	x												
Precast Concrete Erection	x	x	x												x*
Residential Construction															x*
Wall Openings	x	x	x												
Other Walking/ Working Surfaces	x	x	x												

*Must show unfeasibility or greater hazard

**Roof width less than 50 feet

Training

Training provisions found in 29 CFR 1926.503 supplement and clarify the training requirements of 29 CFR 1926.21 regarding the hazards in Subpart M. The training program must enable each employee to recognize the hazards of falling and also train each employee in the procedures to be followed in order to minimize these hazards.

The employer must assure that each employee has been trained by a competent person qualified in the following areas:

1. The nature of fall hazards in the work area;
2. The correct procedures for erecting, maintaining, disassembling, and inspecting the fall protection systems to be used;
3. the use and operation of guardrail systems, personal fall arrest systems, safety net systems, controlled access zones, and other protection to be used;
4. The role of each employee in the safety monitoring system when this system is used;
5. The limitations on the use of mechanical equipment during the performance of roofing work on low-sloped roofs;
6. The correct procedures for the handling and storage of equipment and materials and the erection of overhead protection; and
7. **T**he role of employees in fall protection plans.

Each employer is required to verify training by preparing a written certification record. The written certification record must contain the name or other identity of the employee trained. The date of training, and the signature of the person who conducted the training,or the signature of the employer. If the employer relies on training conducted by another employer or completed prior to the effective date of this section, the certification record should indicate the date the employer determined the prior training was adequate rather than the date of actual training. The latest training certification should be maintained.

If, or when, the employer has reason to believe that any affected employee, who has already been trained, does not have the understanding and skill required to recognize the hazards of falling or to minimize falling hazards that employee must be retrained. Circumstances where retraining is required include, but are not limited to:

1. Changes in the workplace rendering previous training obsolete;
2. Changes in the types of fall protection systems or equipment to be used rendering previous training obsolete; or
3. Inadequacies in an affected employee's knowledge or use of fall protection systems or equipment indicating the employee has not retained the requisite understanding or skill.

Training Verification Form
Fall Protection

E-Con Electric Inc has included an outline of company responsibilities under 29 CFR 1926.503 relating to fall protection. The regulation states that employees must be trained before any work is assigned.

E-Con Electric Inc has adopted a company safety program, which includes training responsibilities contained in 29CFR1926.503, *Training Requirements for Fall Protection*. The training program is designed to help each employee to recognize the hazards of falling and to train employees in the proper procedures to be followed to minimize the hazard of falling.

It is the policy of **E-Con Electric Inc** that employees who have received prior training on these topics need not be retrained, but will be certified by company management.

Retraining is required, but is not limited to, situations where:

- Changes in the workplace render previous training obsolete; or
- Changes in the types of fall protection systems or equipment to be used render previous training obsolete; or
- Inadequacies in an affected employee's knowledge or use of fall protection systems or equipment indicated that the employee has not retained the requisite understanding or skill.

Name of Employee: _____

Type of Training	Date[1]	Signature of Trainer[2]
Types of fall hazards to expect on jobsite		
When and how to use the following systems • guardrails • personal fall arrest systems • safety nets • covers • safety monitoring (low-sloped roofs) • controlled access zones • fall protection plan • alternative safe work practices • other _____		
Cautions for the use of mechanical equipment during low-slope roofing work		
How to handle and store equipment and materials on roofs, and erect overhead protection		
Details of the Fall Protection Regulation		

[1] Date of training, or date current employer determined prior training is adequate
[2] Trainer, or employer if for prior training

E-Con Electric Inc has adopted a company safety program, which includes training responsibilities contained in 29CFR1926.503, *Training Requirements for Fall Protection*. The training program is designed to help each employee to recognize the hazards of falling and to train employees in the proper procedures to be followed to minimize the hazard of falling. The regulation states that employees must be trained before any work is assigned.

Each employee, who has the possibility of being exposed to fall hazards, will be trained to help recognize the hazards of falling and in the proper procedures to be followed to minimize falling hazards. **E-Con Electric Inc** will train, using a competent person qualified in the following areas:

- The nature of fall hazards in the work area;
- The correct procedures for erecting, maintaining, disassembling, and inspecting the fall protection systems to be used;
- The use and operation of guardrail systems, personal fall arrest systems, 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 system 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; and
- The standards contained in 29 CFR 1926 Subpart M.

This form is to certify that _____ has successfully completed training on the above named topics. (Employee Name)

Employees must meet every criteria of the Fall Protection Training Program prior to receiving certification to work. As part of our Safety and Health Program, **E-Con Electric Inc** reserves the right to periodically evaluate employees on elements of the fall protection training program. If it is determined that retraining is necessary, that retraining will be provided before the employee continues to work.

E-Con Electric Inc will routinely evaluate its Fall Protection Program. If there are significant changes in work procedures or fall protection equipment being used, all employees will be trained on the changes.

Employee's Signature	Date
Trainer's Signature	Date

Jobsite Checklist

Job Location: _____ **Date:** _____

Fall Hazard Identification Checklist

	Yes	No
Hoist Areas	☐	☐
Holes	☐	☐
Formwork	☐	☐
Ramps	☐	☐
Runways	☐	☐
Excavations	☐	☐
Dangerous Equipment	☐	☐
Overhand Bricklaying	☐	☐
Roof Sheathing	☐	☐
Roofing	☐	☐
Wall Openings	☐	☐
Falling Objects	☐	☐

Conventional Fall Protection Systems Checklist

	Installation	Maintenance	Inspection	Disassembly	N/A
Guardrails	☐	☐	☐	☐	☐
Personal Fall Arrest Systems	☐	☐	☐	☐	☐
Safety Nets	☐	☐	☐	☐	☐
Covers	☐	☐	☐	☐	☐

Alternative Fall Protection Systems Checklist

	Yes	No
Alternative Fall Protection		
• When it is used	☐	☐
Controlled Access Zones		
• Who can enter	☐	☐
• Demarcation procedures	☐	☐
• Warning line systems	☐	☐
Safety Monitoring System		
• When it is used	☐	☐
Fall Protection Plan		
• Procedures	☐	☐
• Role of each employee	☐	☐

Fall Protection Training Record

Facility _____ Department _____ Date _____

Employee Name (please print)	Job Title (please print)	Employee Signature

_____

Signature of Trainer

Definitions

Anchorage: a secure point of attachment for lifelines, lanyards, or deceleration devices.

Authorized person: a person approved or assigned by the employer to perform a specific type of duty or duties or to be at a specific location or locations at the jobsite.

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

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.

Controlled Access Zone (CAZ): an area in which certain work may take place without the use of fall arrest systems, or safety net systems, and access to the zone is controlled.

Dangerous Equipment: equipment, which, as a result of form or function, may be hazardous to employees who fall onto or into such equipment.

Deceleration device: any mechanism, such as a rope grab, rip-stitch lanyard, specially-woven lanyard, tearing or deforming lanyards, or automatic self-retracting lifelines/lanyards which serves to dissipate a substantial amount of energy during a fall arrest, or otherwise limit the energy imposed on an employee during fall arrest.

Deceleration distance: the additional vertical distance a falling employee travels, excluding lifeline elongation and free fall distance, before stopping, from the point at which the deceleration device begins to operate. It is measured as the distance between the location of an employee's body belt or body harness attachment point at the moment of activation (at the onset of fall arrest forces) of the deceleration device during a fall, and the location of that attachment point after the employee comes to a full stop.

Free fall: the act of falling before a personal fall arrest system begins to apply force to arrest the fall.

Free fall distance: the vertical displacement of the fall arrest attachment point on the employee's body belt or body harness between onset of the fall and just before the system begins to apply force to arrest the fall. This distance excludes deceleration distance, and lifeline/lanyard elongation, but includes any deceleration device slide distance or self-retracting lifeline/lanyard extension before they operate and fall arrest forces occur.

Guardrail system: a barrier erected to prevent employees from falling to lower levels.

Hole: a gap or void 2 inches (5.1 cm) or more in its least dimension, in a floor, roof or other walking/working surface.

Infeasible: impossible to perform the construction work using a conventional fall protection system or that it is technologically impossible to use any one of these systems to provide fall protection.

Lanyard: a flexible line of rope, wire rope, or strap which generally has a connector at each end for connecting a body harness to a deceleration device, lifeline, or anchorage.

Leading edge: the edge of a floor, roof, or formwork for a floor or other working surface which changes location as additional floor, roof, decking, or formwork sections are placed, formed or construction. A leading edge is considered to be an "unprotected side and edge" during periods when it is not actively and continuously under construction.

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

Low-slope roof: a roof having a slope less than or equal to 4 in 12 (vertical to horizontal).

Opening: a gap or void 30 inches (76 cm) or more high and 18 inches (48 cm) or more wide, in a wall or partition, through which employees can fall to a lower level.

Overhand bricklaying and related work: the process of laying bricks and masonry units such that the surface of the wall to be jointed is on the opposite side of the wall from the mason, requiring the mason to lean over the wall to complete the work. Related work includes mason tending and electrical installation incorporated into the brick wall during the overhand bricklaying process.

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

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

Qualified: one who, by possession of a recognized degree, certificate, or professional standing, or who by extensive knowledge, training, and experience, has successfully demonstrated his ability to solve or resolve problems relating to the subject matter, the work, or the project.

Rope grab: a deceleration device which travels on a lifeline and automatically, by friction, engages the lifeline and locks so as to arrest the fall of an employee. A rope grab usually employs the principle of inertial locking, cam/level locking, or both.

Roofing work: the hoisting, storage, application, and removal of roofing materials and equipment, including related insulation, sheet metal, and vapor barrier work, but not including the construction of the roof deck.
Safety-monitoring system: a safety system in which a competent person is responsible for recognizing and warning employees of fall hazards.

Self-retracting lifeline/lanyard: a deceleration device containing a drum-wound line which can be slowly extracted from, or retracted onto, the drum under slight tension during normal employee movement, and which, after onset of a fall, automatically locks the drum and arrests the fall.

Steep roof: a roof having a slope greater than 4 in 12 (vertical to horizontal).

Toeboard: a low protective barrier that will prevent the fall of materials and equipment to lower levels and provide protection from falls for personnel.

Unprotected sides and edges: any side or edge (except at entrances to points of access) of a walking/working surface where there is no wall or guardrail system at least 39 inches (1.0 m) high.

Walking/working surface: any surface, whether horizontal or vertical on which an employee walks or works, including, but not limited to, floors, roofs, ramps, bridges, runways, formwork, and concrete reinforcing steel, but not including ladders, vehicles, or trailers, on which employees must be located in order to perform their job duties.

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

Fleet Management Program

Fleet Management Program

Purpose: To help
- Reduce vehicle accidents
- Reduce employee injuries
- Protect the public
- Increase profit by decreasing losses

Fleet Safety Supervisor:
Appoint a fleet safety supervisor. This may be the owner, office manager or one of the senior drivers. This specific individual should be designated to be in charge of fleet safety. The fleet safety supervisor should possess knowledge and understanding of safe driving so that he or she can educate and train new and experienced drivers. The fleet safety supervisor should also be able to communicate well with drivers and management on matters related to fleet safety.

Underage Drivers:
Commercial trucks should not be driven by any person under age 21. Truck tractor units must not be driven by any person under age 25. Experience shows that youthful operators of these types of units are more prone to be involved in motor vehicle accidents than older, more experienced operators.

Driver Selection:
Decision making strategies to avoid accidents depend on hiring drivers who have the skills and behaviors critical to safe driving. Awareness is possibly the most important single factor separating good drivers from others. There are several aspects to awareness, including situational awareness and awareness of one's own capabilities and limitations. Situational awareness refers to the immediate driving environment, which includes weather and road conditions, and other factors that can cause sudden changes in the situation. Those drivers who have good situational awareness are usually able to anticipate probable actions of others and choose potential escape paths. A good driver might be defined as one who avoids dangerous situations, a distinction that may be based on strategic decision making done outside the driving environment. Try to determine, during an interview, if the prospective driver has behaviors such as impulsiveness or anger.

Hiring:
A motor vehicle report should be obtained on all prospective drivers and the employer should personally interview these applicants. In this interview, the employer should ask questions regarding previous work experience, educational background, knowledge of basic working rules, and past driving records. A schedule to reorder motor vehicle reports should be maintained. Unless each driver is continuously monitored with some form of reporting to management, annual reorders should be considered.

Training:
Institute a program to properly train all new employee drivers. Statistics show that properly trained drivers are less likely to become involved in accidents than those with little or no training.

A. All new drivers of commercial vehicles with gross vehicle weights of over 10,000 lbs. should be accompanied by either the fleet safety supervisor or by an experienced driver for a minimum of three days of driving.

B. When an employee driver changes from driving a single rear axle unit to a dual rear axle unit or to a truck tractor unit, the driver should be accompanied by the fleet safety supervisor or an experienced driver for at least one day.

Counseling Employees:
Employee evaluation should be conducted by the fleet safety supervisor. The supervisor should recognize those drivers who establish good driving records. An employee whose record reveals violations and/or at fault accidents approaching the maximum allowed by the company driving policy should be counseled by the fleet safety supervisor.

Any driver with an impaired driving charge should immediately be counseled by the fleet safety supervisor. That employee should not be allowed to drive a company vehicle for at least three years and until proper and adequate counseling (defensive driving, alcohol or drug rehabilitation) has been completed.

Leasing or Loaning Vehicles:
Leasing or loaning business vehicles to anyone under the age 25 is not allowed, including:

- Under age 25 child of an employee
- Under age 25 customer unless accompanied by an employee (such as a demonstration drive)

Safety Meetings:
The fleet safety supervisor should periodically hold meetings with all drivers to discuss new issues or problems that are being encountered.

Negligent Entrustment

- Involves negligent hiring, supervision, and retention of employees.
- Is directly related to the severity of risk to a third party by an incompetent employee.
- Focuses of pre-employment investigation into an employee's background and exhibited behaviors while employed.
- Business owners have a responsibility to ensure that employee drivers are competent to operate vehicles.
- Expensive judgments and punitive damages have been awarded that far exceed insurance coverages.
- A logical method to limit liability is to review motor vehicle records regularly.
- Checking records gives the employer a defense: "We ran the MVR. The driver has a good record. How could we have known? What else could we have done?"

Motor Vehicle Record (MVR) Policy

It is the policy of **E-Con Electric Inc** to obtain and review the Motor Vehicle Record (MVR) on each prospective driver* before an offer for employment is extended to the individual. Management will review the Motor Vehicle Record to ascertain the applicant or employee holds a valid license and their driving record is within the parameters set by company driving policy.

* A “driver” is someone who could not perform the duties assigned to them without driving a vehicle.

Management will conduct an annual review of each employee’s driving performance, where driving is a part of his or her job. Based upon the outcome of the annual review, the driving exposure, and the losses experienced during the past year, MVRs may then be ordered and reviewed. As a company policy MVRs are checked each three years on all employees where driving is part of their job description, annually on drivers under the age of 25, and annually on drivers identified during the annual driving review. If the employee's driving record does not meet the criteria set by management, driving privileges may be revoked, or other disciplinary action may be taken.

E-Con Electric Inc Date

Motor Vehicle Record Review

Name: _____

Social Security #: _____

I have reviewed the driving record of the above named driver and have carefully considered the accident record: any evidence he/she has violated laws governing the operation of motor vehicles, especially such violations as: speeding, reckless driving, and operation while under the influence of alcohol or drugs, indicating the driver has exhibited a disregard for the safety of the public. The Motor Vehicle Record (MVR) results were also applied to the standards of this company as found in **E-Con Electric Inc** Driving Policy. Having done the above, I find that:

[ ] the driver meets the minimum requirements for safe driving; or
[ ] the attached sheet outlines the disciplinary action taken; or
[ ] the driver is disqualified from driving a motor vehicle.

Reviewed by: _____ Date: _____

Title: _____

Reviewed by: _____ Date: _____

Title: _____

Reviewed by: _____ Date: _____

Title: _____

Reviewed by: _____ Date: _____

Title: _____

Reviewed by: _____ Date: _____

Title: _____

Driving Policy

E-Con Electric Inc has made a commitment of safety, service, and quality to both our employees and customers. **E-Con Electric Inc** mandates that both our employees and non-employees operate all vehicles owned by or used by **E-Con Electric Inc** in a safe and E-Con Electric, Incomical manner. The following summarizes policy guidelines:

1. Vehicles are not to be operated unless in a safe operating condition.
2. Drivers must be physically and mentally able to drive safely.
3. Drivers must conform to all traffic laws with allowances made for adverse weather and traffic conditions.
4. Respect the rights of other drivers and pedestrians. Courtesy is contagious.
5. Drivers may not use drugs or alcohol, or be under the influence of drugs or alcohol, while operating a vehicle owned by or used by **E-Con Electric Inc**.

Accidents
All accidents are to be reported to management of **E-Con Electric Inc** within twenty-four (24) hours after the accident occurs. All accidents will be reviewed and determination made as either preventable or non-preventable. *A preventable accident is defined as an accident in which the driver failed to do everything reasonably possible to avoid it.*

MVR Standards
Motor Vehicle Records (MVRs) will periodically be checked on all employees where driving is a part of their job. The MVR will be reviewed to ascertain the employee holds a valid license and their driving record is within the parameters set by company management. MVR checks which reveal:

1. Three (3) or more traffic violations and/or at fault accidents over a three (3) year period for drivers age 25 and older, two (2) traffic violations and/or at fault accidents for drivers between ages of 18 and 25, or one (1) traffic violation and/or at fault accident for drivers 17 and under; or
2. One or more of the following type of serious traffic convictions within the past 3 years:
    - driving while under the influence or while disabled by use of drugs;
    - refusal to take a breath analyzer test;
    - leaving the scene of an accident without reporting it;
    - homicide, assault, or criminal negligence resulting from the operation of a vehicle;
    - driving while license is suspended or revoked;
    - reckless or dangerous driving, which results in injury to a person;
    - racing;
    - passing a stopped school bus and/or;
    - possession of a controlled substance;

will disqualify the employee from driving company operated vehicles, or those vehicles in the care and custody of **E-Con Electric Inc**.

Violations include seat belt violations, but do not include such non-moving violations as weight violations or improper or inadequately maintained equipment.

Radar Detectors
The use of radar detectors is forbidden in all vehicles owned or used by **E-Con Electric Inc**. Drivers using radar detectors will have their driving privileges revoked.

Passengers
Unless specifically authorized in writing, a driver is not permitted to have any other person ride along in a commercial vehicle unless the other person is an employee of **E-Con Electric Inc** or is assigned to that vehicle by the company. Such authorization is also required if a driver wants to have a non-employee family member ride along in the commercial motor vehicle.

Seat Belts
All occupants must wear seat belts whenever the vehicle is in motion.

Securing Cargo
Cargo will be secured and all doors locked while en route and while the vehicles are parked.

E-Con Electric Inc	**Date**

Vehicle Usage Policy

E-Con Electric Inc has developed a vehicle usage policy. Company owned vehicles and/or those used by company employees will be operated in a safe and E-Con Electric, Incomical manner. The guidelines are:

1. Operate vehicles in a manner consistent with the Driving Policy of **E-Con Electric Inc**. Operating any vehicle outside outlined rules in the Driving Policy may result in forfeiture of all driving privileges;

2. All traffic violations received while operating the assigned vehicle will be paid by the employee;

3. Report vehicle defects and needed repairs to company management so necessary repairs can be made;

4. The employee is not to give permission for the vehicle to be driven by any other person, including family members. Specific permission must be obtained from company management for any personal use of the vehicle; and

5. Report all accidents to the manager consistent with **E-Con Electric Inc** "Accident Reporting Policy." Employees are responsible for reimbursing **E-Con Electric Inc** for all damages to the vehicle that are not covered by insurance, provided that **E-Con Electric Inc** accident review shows a preventable type accident.

I have read, understand, and agree to the terms set forth in this Vehicle Usage Policy.

Signed **Date**

Notification of Counseled Driver

Name of Driver

Company Name

Job Duties

Address

City, State

Reason:

Action Taken:

Fleet Safety Supervisor

Date

Driver

Date

Driver Information Form

Policy #: _____

Date: _____ Fax #: _____

1. Driver _____ DOB _____
Type Of Vehicle _____ D.L.# _____
Job Title _____

2. Driver _____ DOB _____
Type Of Vehicle _____ D.L.# _____
Job Title _____

3. Driver _____ DOB _____
Type Of Vehicle _____ D.L.# _____
Job Title _____

4. Driver _____ DOB _____
Type Of Vehicle _____ D.L.# _____
Job Title _____

5. Driver _____ DOB _____
Type Of Vehicle _____ D.L.# _____
Job Title _____

6. Driver _____ DOB _____
Type Of Vehicle _____ D.L.# _____
Job Title _____

7. Driver _____ DOB _____
Type Of Vehicle _____ D.L.# _____
Job Title _____

8. Driver _____ DOB _____
Type Of Vehicle _____ D.L.# _____
Job Title _____

9. Driver _____ DOB _____
Type Of Vehicle _____ D.L.# _____
Job Title _____

Driver's Check-up Report

Vehicle _____ Mileage _____ Date _____

	OK	Repair	Repairs Made		OK	Repair	Repairs Made
Glass				Tire-wheels			
Horn				Brakes			
Mirrors				Fuel system			
Oil pressure				Exhaust system			
Parking brakes				Air lines-hoses			
Wipers				Cooling system			
Low air pressure				Trailer light			
Vac. warning device				& connector			
Vacuum gauge				Suspension			
Air gauge				Springs			
Extinguishers				Steering			
First aid kit				Chocks			
Fuses-electrical				Coupling			
Emergency reflectors				Head lights			
Tire chains				Stop lights			
Placards				Tail lights			
_____				Clearance			
_____				Reflectors			
_____				Hazard lights			
_____				Signals			
_____				_____			
_____				_____			
_____				_____			

Driver's Signature _____

Mechanic's Signature _____ Date _____

Remarks: _____

Commercial Motor Vehicle Authorized Passenger

E-Con Electric Inc has policy which prohibits the practice of transporting unauthorized persons in a commercial motor vehicle.

Unless specifically authorized in writing, a driver is not permitted to have any other person ride along in a commercial vehicle unless the other person is an employee of **E-Con Electric Inc** or is assigned to that vehicle by the company. Such authorization is also required if a driver wants to have a non-employee family member ride along in the commercial motor vehicle.

E-Con Electric Inc will maintain the following authorization at our principal place of business. At our discretion, a driver may also carry a copy of this authorization.

The following individual is authorized to be transported in our commercial vehicle.

Name: _____

From location: _____

To destination: _____

This authorization expires after the date: _____/_____/_____.

Authorization approved by: _____

Hazard Communication Program

Hazard Communication Program
A Guide to Compliance

The contents of this document have been updated to reflect the globally harmonized system for hazard communication. The following material is to be used as a guideline only. For strict compliance check with your local Occupational Safety and Health Administration (OSHA) office and ask for the Hazard Communication Standard 29 CFR 1910 1200, which is called the Employee Right-to-Know law in some states.

Hazard Communication Coordinator
Appoint one person to take charge of you Hazard Communication (HAZCOM) Program. This is not required by law, but it is recommended. Make sure the employees know who your HAZCOM Coordinator is.

Chemical Inventory
Under OSHA regulations employers must develop a list of the hazardous chemicals workers may be exposed to during normal work procedures or in the case of emergencies such as leaks and spills. This hazard information is then required to appear on the label of each container. Then check your list against the Safety Data Sheets (SDS previously known as MSDS, Material Safety Data Sheet) forms you have received from your suppliers. If there are hazardous chemicals in your work place for which you do not have an SDS, you must write to the manufacturer, importer or supplier to obtain the missing SDS.

Consumer products- Are exempt from some aspects of the Standard, such as labeling and SDS requirements, if they are used in a similar manner to normal consumer use and if exposure does not exceed normal consumer exposure. For example, if an employee occasionally uses a glass cleaner on a window or computer screen, the cleaner would be exempt. If the employee routinely uses the glass cleaner, such as maintenance or custodial work, then the cleaner would not be exempt.

Sealed containers- For work situations where employees handle chemicals in sealed containers which are not opened under normal work conditions (such as marine cargo handling, warehousing and retail sales) certain exemptions to the Standard also apply.

Warning Label Requirements
Manufacturers, importers and distributors must provide hazard information on each container label. Employers are required to make sure each label remains clearly readable while it's in your work place. If a hazardous substance is transferred to a smaller container, that container should have a label with the same information as the original container. A label is not required if the smaller container is intended only for the immediate use during the work shift by the employee who transfers the hazardous chemicals. Hazardous substance container labels must have the following information located together:

- *Product identifier*
- *Signal word "Danger" or "Warning"*
- *Hazard statement(s)*
- *Pictogram(s)*
- *Precautionary statement(s) for prevention, response, storage*
- *Name, address, and telephone number of the chemical manufacturer, importer, or other responsible party*

Safety Data Sheets
Safety Data Sheets (SDS) are forms which contain detailed information about a specific chemical. You are required to have an SDS for every hazardous chemical in the work place. If you are missing SDS or if you receive any new hazardous chemical without an SDS, you must write to the supplier requesting current SDS.

All employees must have ready access to SDS for those chemicals. The SDS must be located close to where the employee may be exposed to the chemical. All employees must know the location of the SDS and how to read them. Since SDS are a valuable source of information in the event of an emergency, keep an extra copy of all SDS in a separate and secure location.

The SDS must include at least the following section numbers and headings, and associated information under each heading, in the order listed:

- *Section 1, Identification*
- *Section 2, Hazard(s) identification*
- *Section 3, Composition/information on ingredients*
- *Section 4, First-aid measures*
- *Section 5, Fire-fighting measures*
- *Section 6, Accidental release measures*
- *Section 7, Handling and storage*
- *Section 8, Exposure controls/personal protection*
- *Section 9, Physical and chemical properties*
- *Section 10, Stability and reactivity*
- *Section 11, Toxicological information*
- *Section 12, Ecological information*
- *Section 13, Disposal considerations*
- *Section 14, Transport information*
- *Section 15, Regulatory information*
- *Section 16, Other information*

Written Communication Plan

Your written plan should include the following:

- *Designation of responsibility*
- *A list of the hazardous chemicals known to be present using a product identifier that is referenced on the appropriate safety data sheet*
- *Labeling system and other forms of warning*
- *SDS forms*
- *Training*
- *Non-routine tasks*
- *Multiple on-site employers*

Compliance Checklist

	Yes	No
Obtained a copy of the rule	_____	_____
Read and understood the requirements	_____	_____
Have you designated a HAZCOM coordinator?	_____	_____
Have you made a list of all hazardous chemicals?	_____	_____
Is there clear communication between purchasing and receiving departments and HAZCOM coordinator?	_____	_____
Are all containers of hazardous substances labeled?	_____	_____
Do you have up-to-date SDS for every hazardous chemical?	_____	_____
Have you contacted appropriate supplier for missing or incomplete SDS?	_____	_____
Have you assembled a Written HAZCOM Plan?	_____	_____
Have you established a training program?	_____	_____
Have you identified and trained all employees?	_____	_____
Have you established a procedure to monitor who has received training?	_____	_____
Are your SDS accessible to all employees?	_____	_____
Do other on site employers know your HAZCOM program?	_____	_____
Established procedures to maintain current program	_____	_____

Employee Training Steps

1.	*The standard*	Inform employees about the existence and the requirements of the Hazard Communication Standard.
2.	*Hazardous substances*	Inform them about which hazardous chemicals they might be exposed to while working. Show them your list of hazardous substances.
3.	*Hazards*	Explain the physical and health hazards associated with these chemicals. Identify which hazards they are most likely to encounter in their specific work sites. Also explain the hazards of non-routine jobs such as cleaning storage tanks, containers and pipes.
4.	*Detection*	Explain the methods that can be used to detect the presence or release of hazardous chemicals such as odor color and appearance.
5.	*Safety precautions*	Explain the proper safety precautions for handling and storage of each chemical, including protective clothing and equipment.
6.	*Protective procedures*	Point out the things you are doing to provide protection such as proper ventilation, engineering changes or using substances that less hazardous. Those using a respirator should also be included in your respiratory protection program.
7.	*Emergency procedures*	Explain emergency procedures, cleanup and disposal.
8.	*Labels*	Make sure the employees know and understand the labeling system, and to replace damaged labels.
9.	*SDS forms*	Explain the SDS forms and where they are located. Employees must know how to read and interpret them and obtain copies.
10.	*Review hazard communication program*	Review the details. Where will the program be located? Explain the employee responsibilities and their part in taking training seriously.
11.	*Documentation of training*	Have each employee sign a statement listing the date, who performed the training and what the training consisted of.
12.	*Who must receive training*	Those employees who will be exposed to the hazardous substances. All new employees. When new chemicals are introduced into the work place. Annual refresher training is required in some states.
13.	*Employee involvement*	Encourage a positive atmosphere. The program is designed to protect their health and safety. The "Right to Know" Law provides them with life-saving knowledge.

Employee Training Checklist

Do all employees know:	Yes	No
About the HAZCOM Standard?	_____	_____
Who the HAZCOM coordinator is?	_____	_____
Where the written communication program is?	_____	_____
About the chemical hazards they are exposed to?	_____	_____
How to read and understand warning labels?	_____	_____
The location of the SDS forms?	_____	_____
How to read and understand SDS forms?	_____	_____
The safety precautions for handling chemicals?	_____	_____
How to detect presence or release of chemicals?	_____	_____
What are the physical hazards that may be present, if any?	_____	_____
Signs of overexposure?	_____	_____
The physical, health, simple asphyxiation, combustible dust, and pyrophoric gas hazards, as well as hazards not otherwise classified, of the chemicals in the work area (if any)?	_____	_____
Measures to take for protecting themselves from hazards?	_____	_____
Personal protective equipment to be used?	_____	_____
Procedures the employer has to protect employees from exposure?	_____	_____
Emergency and first aid procedures?	_____	_____
Their responsibilities and involvement with compliance?	_____	_____

Hazard Communication / Worker-Right-to-Know Regulations

Member / Employee Training Acknowledgement

This document signifies that you have received training about relevant physical hazards and the types of chemicals present in the workplace and that you have been informed of the chemical labels and safety data sheets available, and that you have the right to continue to obtain information on these chemicals should you so desire.

I,_____, have received training regarding the relevant physical hazards and chemicals used in the workplace, including their properties, use of safety equipment, proper handling techniques, emergency response procedures, and potential health effects.

Employee	Date
Hazard Communication Coordinator E-Con Electric Inc	Date

Written Hazard Communication Program

Employee Right to Know

E-Con Electric Inc has developed a program to establish procedures for working with and handling hazardous chemical substances. This program supports compliance with the Occupational Safety and Health Administration (OSHA) Hazard Communication Standard as found in 29 CFR 1910.1200. This program is maintained within your workplace and applies to all company employees.

The written Hazard Communication Program will includes:

1. Container labeling.
2. Safety Data Sheets (SDS).
3. Employee training.

The following program outlines the steps that will help accomplish this objective.

1. Container Labeling

It is the policy of **E-Con Electric Inc** that no container of hazardous substances will be released for use until the following information is verified:

- Containers are clearly labeled as to the contents.
- Appropriate hazard warnings are noted.
- The name and address of the manufacturer can be indentified.

The responsibility has been assigned to the Hazard Communication Coordinator. To help ensure that employees are aware of the hazards of material used in their work areas, it is our policy to label all sE-Con Electric, Incdary containers. There are limited exceptions when the contents will be used immediately by the employee who transfers the hazardous chemicals from a labeled container.

The supervisor in each department will help ensure that all sE-Con Electric, Incdary containers are labeled with either an extra copy of the original manufacturer's label or with generic labels which have a block for identity and blocks for the hazard warning.

2. Safety Data Sheets (SDS)

Copies of SDS for hazardous substances to which employees may be exposed are kept *(insert a location specified by management)*. The Hazard Coordinator will be responsible for obtaining and maintaining the data sheet system for **E-Con Electric Inc**.

The Coordinator will review incoming data sheets for new and significant health/safety information. The Hazard Coordinator will see that any new information is passed on to the affected employees.

SDS will be reviewed for completeness by the Hazard Coordinator. If a SDS is missing or obviously incomplete, a new SDS will be requested from the manufacturer or supplier. SDS's are available to employees in their work area for review during each work shift. If a SDS is not available or a new hazardous substance is in use and does not have a SDS, please contact your supervisor immediately.

3. Employee Information and Training

Employees will be expected to attend a health and safety orientation set up by the Personnel Manager, for information and training on the following:

- An overview of the requirements contained in the Hazard Communication Regulation, including their rights under the Regulation.
- Location and availability of the written Hazard Communication Program and SDS.
- How to lessen or prevent exposure to these hazardous substances through usage of control, work practices and personal protective equipment
- Steps **E-Con Electric Inc** has taken to lessen or prevent exposure to these substances.
- How to read labels and review SDS to obtain appropriate hazard information.

Safety meetings will be held when new hazardous substances are introduced. Your supervisor will review the above items as they relate to the new material in your work area.

4. Hazardous Substances

E-Con Electric Inc maintains a list of hazardous chemicals present. Information about the hazardous chemicals and substances can be sound in the SDS books.

5. Hazardous Non-Routine Tasks

Employees might be required to perform non-routine tasks involving hazardous substances. Prior to starting work on such projects, each affected employee will be given information by their supervisor about hazards to which they may be exposed during this activity.

This information will include:

- Specific hazards.
- Protective/safety measures which must be utilized.
- Measures **E-Con Electric Inc** has taken to help lessen the hazards including ventilation, respirators, presence of another employee and emergency procedures.

6. Informing Contractors

To help ensure that outside contractors work safely in our place of business, it is the responsibility of the Coordinator to provide contractors the following information:

- Hazardous substances to which they may be exposed while on the job site.
- Precautions the contractors may take to help lessen the possibility of exposure by usage of appropriate protective measures.

If anyone has questions or suggestions about this plan contact the Coordinator. The plan will be monitored by the Coordinator or the Personnel Manager to help ensure that the policies are carried out and that the plan is effective. This written program available, upon request, to employees.

E-Con Electric Inc recognizes the need for a written Hazard Communication Program to meet its specific business needs. After thorough consideration, **E-Con Electric Inc** elects to adopt and implement the above Hazard Communication Program. This program will become effective _____.

E-Con Electric Inc	Date
Hazard Communication Coordinator	Date

Sample SDS Request Letter

Date:

To: Chemical Manufacturer, Importer, or Distributor

SAFETY DATA SHEET REQUEST

As you are aware, the Occupational Safety and Health Administration (OSHA) requires employers to provide training to their employees concerning the hazards of chemicals and other hazardous materials.

To properly train our employees, we need a Safety Data Sheet (SDS) for one of your products.

Your prompt attention is necessary to maintain a proper level of safety for our employees. Please send the SDS for _____ no later than _____.

Sincerely,

Hearing Conservation Program

Hearing Conservation

Workplace noise can create physical stress and can contribute to accidents by making it difficult to hear warning signals. As many as 14 million workers in the U. S. are exposed to hazardous noise levels in the workplace. Noise levels can be controlled by:

- Using quieter work processes;
- Altering or enclosing equipment to reduce noise at the source; or
- Using sound absorbing materials to prevent the spread of noise by isolating the source.

The Occupational Safety and Health Administration has specific standards on noise levels in the workplace. Sound level meters and/or noise dosimeters are used and then calculations must be made to determine the noise level average over an 8 hour period. This must be done for all employees who may be exposed to noise levels above 85 dBA. Once this is done there are 3 categories into which the employees would fall:

1) The time weighted average for the eight hour day is **below 85 dBA.**

Nothing more needs to be done other than periodic monitoring to insure that the level is not exceeded in the future.

2) The time weighted average for the eight hour day in general industry is **between 85 & 90 dBA**.

Every employee must receive a baseline audiometric exam and one annually thereafter at no charge to themselves. The results must be reviewed by a "competent" person to determine if a partial loss of hearing has occurred.

Hearing protection equipment must be made available to the affected employees such as ear plugs or muffs. Proper training must be provided to them about the selection, use, care, and maintenance of the equipment.

The use of equipment must be strictly enforced if the employee has suffered a significant threshold shift as determined by the review of 2 successive hearing tests.

3) The time weighted average for the eight hour day is **above 90 dBA**.

Every employee must receive a baseline audiometric exam and one annually thereafter at no charge to themselves. The results must be reviewed by a "competent" person to determine if a partial loss of hearing has occurred.

Hearing protection equipment must be made available to the affected employees such as ear plugs or muffs. Proper training must be provided to them about the selection, use, care, and maintenance of the equipment.

The use of hearing protection equipment must be strictly enforced without exception for all employees exposed to noise levels above 90 dBA.

Engineering evaluations must be performed to determine what, if any, things need to be done to reduce the noise at its source. This includes but is not limited to: redesign of the workplace, machinery and task; enclosure barriers around the machine; changes in the tool design, material being use etc. As these studies are done, the use of hearing protection must be enforced until such time as the engineering controls prove effective.

Hearing Conservation Program

E-Con Electric Inc has established a hearing conservation program for the protection employees. Areas that have been screened with noise levels above 80 dBA will be summarized with affected employees and job positions identified. All employees found to be exposed to a time weighted average for the eight hour day of 85 dBA or greater will be notified within 21 days of this determination. Whenever noise monitoring is being performed employees will have the opportunity to observe the monitoring in a manor which does not disrupt work flow. The safety coordinator will be the hearing conservation coordinator and shall be the contact person for information or questions.

Hearing protectors shall available to all employees exposed to an 8-hr. time-weighted average of 85 decibels at no cost to the employee.

Annual audiometric (hearing) tests will be performed on employees exposed to a time weighted average above 85 dBA for the eight hour day. This will be performed at no cost to the employee. New employees in affected job positions will be have a baseline test administered within the first 30 days of employment. Exposure to noise will be minimized for 14 hours prior to the exam.

Testing will be performed by a licensed or certified technician, audiologist, otolaryngologist, or physician using equipment meeting ANSI S3.6. Tests will be pure tone, air conduction, hearing threshold examinations at test frequencies of 500, 1000, 2000, 3000, 4000, and 6000 Hz. Each ear will be tested separately.

Establishment of a baseline audiogram for each exposed employees within 6 months of first exposure.

If a standard threshold shift (an average shift in either ear of 10 dBA or more than 2000, 3000, and 4000 Hz.) is identified:

- **A)** The employee will be notified in writing of the threshold shift within 21 days of this determination.
- **B)** The employee will be informed of the need for further evaluation if a medical problem is suspected.
- **C)** The use of hearing protection will be mandatory.
- **D)** The employee will be refitted or retrained in the use of hearing protection.
- **E)** Any employee believed to have some pathology of the ear that is unrelated to workplace exposure may be referred for further examination.

When directed by the safety coordinator hearing protection will be worn at all times at the work station. Failure to do will result in disciplinary action.

An annual training program for employees will include information on the effects of noise on hearing, the purpose and use of hearing protection including the advantages and disadvantages of various types, instructions in the selection, fitting, use and care of the hearing protection and the purpose of audiometric testing and an explanation of the test procedures.

Employees must be provided with training on at least an annual basis, and shall be updated to be consistent with changes in the PPE and work processes.

E-Con Electric Inc will maintain audiometric test records for the duration of the affected workers employment. All records will be available to employees for their review at their request. All noise exposure measurement records will be maintained for at least 2 years.

E-Con Electric, Inc monitoring procedures shall be used when exposure limits exceed the established level.

E-Con Electric, Inc shall perform evaluation of hearing protector attenuation for specific noise environments.

Noise Level Measurement Record

Monitoring Performed By: _____ **Date:** _____

Sound Level Meter Hearing Zone Noise Level Data:

Employee Name\ Workstation \ Area \ Equipment	**Operational Notes**	**Time of check**	**C = continuous I = intermittent M = impulse**	**dBA** (Add 2 dB to account for variation then round to nearest whole number)

Apply noise exposure computation from §1910.95 Mandatory Appendix A

Notification Letter Above Action Level

(General Industry)

DATE

EMPLOYEE NAME
EMPLOYEE POSITION

Workplace Noise Exposure

On DAY, the noise you are to exposed at work was sampled while you operated the MACHINE. Your full shift noise exposure did not exceed Occupational Safety and Health Administration's Permissible Exposure Level, however your noise dose of _____% exceeds OSHA's Action Level for noise exposure. The Action Level for noise exposure is one-half of the Permissible Exposure Limit.

You have been enrolled in the company's Hearing Conservation Program to lessen chances of a serious hearing loss as a result of on-the-job noise exposure. Within the next 30 days, you will be provided with training about hearing conservation, and you will be offered audiometric testing (hearing test) and your choice of either ear muffs or ear plugs. Until then, you will be required to wear hearing protection while you are operating the machine or exposed to any other noise sources in the work area unless other controls are implemented to reduce the noise exposure.

Please feel free to contact me or your supervisor if you have any questions.

Sincerely,

MANAGER NAME
E-Con Electric Inc

Note: The employer must notify each employee exposed at or above an 8-hour time weighted average of 85 decibels of the results of the monitoring.

Notification Letter Above Permissible Exposure Level

DATE

EMPLOYEE NAME
EMPLOYEE POSITION

Workplace Noise Exposure

On DAY the noise you are exposed to at work was sampled while you operated the MACHINE. Your full shift noise dose was is determined to be _____% of the Occupational Safety and Health Administration's Permissible Exposure Level for noise exposure.

You have been enrolled in the company's Hearing Conservation Program to lessen chances of a serious hearing loss as a result of on-the-job noise exposure. Within the next 30 days, you will be provided with training about hearing conservation, and you will be offered audiometric testing (hearing test) and your choice of either ear muffs or ear plugs. Until then, you will be required to wear hearing protection while you are operating the machine or exposed to any other noise sources in the work area unless other controls are implemented to reduce the noise exposure.

Please feel free to contact me or your supervisor if you have any questions.

Sincerely,

MANAGER NAME
E-Con Electric Inc

Note: The employer must notify each employee exposed at or above an 8-hour time weighted average of 85 decibels of the results of the monitoring.

Personal Protective Equipment Training Acknowledgement

When the job warrants, personal protective equipment must be worn and appropriately utilized. This equipment will be provided by **E-Con Electric Inc** and should be maintained and cared for by the employee. Training shall be provided on use, inspection, wear and cleaning, and storage of the personal protective equipment. Management will be responsible for monitoring and enforcing use of the equipment.

Name: _____

Department: _____

Job: _____

Type of Equipment Issued	Date Trained	Employee Initials

This certifies that _____ (employee) has been provided with and trained on the use of the above noted equipment.

_____ _____

(Supervisor) Date

I have been given the above noted equipment and have been trained in its use. I understand why it is necessary to use such equipment and I agree to use it.

_____ _____

(Employee) Date

Hearing Conservation Training Outline & Roster

The listed personnel completed their annual hearing conservation training required by 29 CFR 1910.95(k).

The subject material contained the following:

1. The effects of noise on hearing
2. The purpose and value of wearing hearing protectors
3. The advantages and disadvantages of the hearing protectors to be offered
4. The various types of hearing protectors offered and care, fitting, and use of each type
5. The general requirements of the OSHA hearing conservation rules
6. The employee's respective tasks in maintaining noise controls
7. The purpose and value of audiometric testing and a summary of the procedures

Name (Print or Type)	Job	Employee Initials	Date

Lockout / Tagout Program

Lockout / Tagout Program

Purpose

The purpose of the Lockout/Tagout program at **E-Con Electric Inc** is for employee safety. It is designed to protect individuals who might be involved in, or affected by, the servicing or maintenance of machines and equipment, from injuries resulting from unintended machine motion or unintended release of energy.

Scope

This program covers all such equipment servicing and/or maintenance activities on **E-Con Electric Inc** property and shall include the work of outside contractors to the degree described here after. Also, certain routine adjusting, cleaning or setup activities performed by employees may be subject to these procedures.

Program

Management

The **Safety Director** shall have the responsibility for the overall management of the Lockout/Tagout Program, including providing for the training of **E-Con Electric Inc** personnel, periodic program revisions as they may become necessary, and annual inspections to determine the effectiveness of the procedure. The safety director shall maintain a list of trained, authorized individuals. Supervisors shall ascertain that only authorized persons who have received proper training are initiating Lockout/Tagout procedures. They shall make sure that adequate communication between affected persons takes place when Lockout/Tagout is being used.

Definitions

Lockout is the procedure of blocking the source of energy to a machine or piece of equipment, and keeping it out, in order to perform maintenance or repairs. Lockout is accomplished by placement of a lockout device at the power source of equipment so that the equipment powered by that source cannot be operated until lockout device is removed.

Tagout is the procedure of placing a tag on the power source. It is a special tag which acts as a warning to others the dangers of starting up the equipment. It is not a physical restraint. Tags must be applied by hand and clearly state that the equipment being controlled cannot be operated until tag is removed.

Energy Sources on which lockout/tagout must be used to protect individuals from the release of hazardous energy include but not limited to the following.

- Electrical
- Mechanical
- Pneumatic
- Fluid and gases
- Hydraulic
- Thermal
- Water under pressure
- Gravity

Authorized person means any employee who has undergone the training prescribed herein for users of Lockout/Tagout.

Training

All employees shall be trained in the recognition of, and compliance with, the warning system. All training and/or retraining must be documented, signed and certified.

Authorized employees training shall consist of the following:

- Explanation of the rules.
- How to use the Procedure and who to notify.
- Identification of machinery energy sources at **E-Con Electric Inc**.

All necessary lockout devices and warnings tags will be issued after training is completed.

Retraining is required when there is a change in job assignments, in machines, a change in the energy control procedures, or a new hazard is introduced or location.

Lockout / Tagout Rules

1. If an outside contractor is called in to perform work at **E-Con Electric Inc**, it shall be the responsibility of the company supervisor involved to advise the contractor of any locks or tags which might affect the contractor or his employees. Whenever a company supervisor actively directs the work of any such workers, it shall be the responsibility of that supervisor to apply lockout/tagout procedures if they are necessary. If an outside contractor creates a hazardous condition for **E-Con Electric Inc** employees by failure to observe or execute proper lockout/tagout procedures, it shall be immediately reported to the safety director or company supervisor.

2. Lockout/Tagout shall be applied when maintaining or servicing any powered equipment or machinery, whether mechanical, electrical, pneumatic, natural gas, water pressure, hydraulic, thermal, or gravity.

3. The supervisor and/or the mechanic working on the equipment shall direct the Lockout/Tagout procedure. In the event there is more than one person working on the equipment, each shall put his/her lock and/or tag on the equipment, as directed by the procedure.

4. If work on equipment which has been locked out tagged is to continue to another shift, the supervisor shall notify any persons on subsequent shifts who might be affected.

5. Each authorized employee using this program shall be issued a lock and key for their use only. Only that person who applied his lock or lockout device may remove it.

6. Certain personnel will be issued locks and/or lockout devices when it becomes evident that routine maintenance, setup or adjustments to their equipment subjects them to hazard from unexpected start up or energy.

7. It shall be the responsibility of the person initiating the lockout/tagout procedure to inform the area supervisor when the machine or equipment is taken out of commission and when it is put back into commission.

8. Each person's lockout equipment (lock, lockout device, or tag) shall have their name affixed to it for easy identification.

9. If it becomes necessary to disable machinery/equipment for tagout by means of blocking hydraulic, electrical, pneumatic or other such systems, only persons qualified to work on those systems shall initiate the tagout procedure.

10. Supervisors shall enforce these lockout/tagout procedures and rules. Violations of these rules are considered serious and must be followed with disciplinary action.

11. Periodic inspections of the energy control procedure are conducted and documented at least annually to ensure procedures and requirements are being followed.

12. Purpose of Lockout/Tagout: Reduce energy or stored energy and the possibility of reaccumulation.

13. Verification of isolation must be checked before proceeding to work on potential hazards.

E-Con Electric Inc

Lockout / Tagout Procedure for Authorized Employees

Preparation for Lockout or Tagout

Make a survey to located and identify all isolating devices to be certain which switch(s), valve(s) or other energy isolating devices apply to the equipment to be locked or tagged out. More that one energy source (electrical, mechanical, others) may be involved.

Sequence of Lockout or Tagout System Procedure

1. Notify all affected employees that a lockout or tagout system is going to be utilized and the reason therefore. The authorized employee shall know the type and magnitude of energy that the machine or equipment utilizes and shall understand the hazards thereof.

2. If the machine or equipment is operating, shut it down by normal stopping procedures (depress stop button, open toggle switch).

3. Operate the switch, valve, or other energy isolating device(s) so that the equipment is isolated from its energy source(s). Stored energy (such as that in springs, elevated machine members, rotating flywheels, hydraulic systems, and air, gas, steam, or water pressure) must be dissipated or restrained by methods such as repositioning, blocking, or bleeding down.

4. Lock out and/or tag out the energy isolating devices with assigned individual lock(s) or tag(s). Note: When tagout alone is used (without lockout) energy sources must be disabled (removed fuses or circuit breakers, close valves and remove handles, disconnect wires) so that the same level of safety is achieved as would be achieved with lockout.

5. After ensuring that no personnel are exposed, and as a check on having disconnected the energy sources, operate the push button or other normal operating controls to make certain the equipment will not operate.

Note: Return operating control(s) to "Neutral" or "Off" position after the test.

6. The equipment is now locked or tagged out.

Restoring Machines or Equipment to Normal Production Operations

1. After the servicing and/or maintenance is complete and equipment is ready for normal production operations, check the area around the machines or equipment to ensure that no one is exposed.

2. After all tools have been removed from the machine or equipment, guards have been reinstalled and employees are in the clear, remove all lockout or tagout devices. Operate the energy isolating devices to restore energy to the machine or equipment.

Procedures Involving More Than One Person

In the preceding steps, if more than one individual is required to lockout or tagout equipment, each shall place their own personal lockout device 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. Each employee will then use their own lock to secure the multiple lockout device. As each person no longer needs to maintain their lockout protection, that person will remove their lock from the device.

Only an authorized employee has primary responsibility for a set number of employees working under the protection of a group lockout or tagout device

Basic Rules for Using Lockout or Tagout System Procedure

All equipment shall be locked out or tagged out to protect against accidental or inadvertent operation when such operation could cause injury to personnel. Do not attempt to operate any switch, valve, or other isolating device where it is locked or tagged out.

Personal Protective Equipment Program

Personal Protective Equipment Program

I. Purpose

The objective of the Personal Protective Equipment (PPE) Program is to protect employees from the risk of injury by creating a barrier against workplace hazards. Personal protective equipment is not a substitute for good engineering or administrative controls, or good work practices, but should be used in conjunction with these controls to ensure the safety and health of employees. Personal protective equipment 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 injury and/or illness.

II. Scope

This program addresses only minimum requirements of eye, face, head, foot, hand and/or dermal protection. Separate programs exist for respiratory and hearing protection, since the need for participation in these programs is established through industrial hygiene monitoring.

III. Hazard Assessment and Equipment Selection

E-Con Electric Inc will, in compliance with Occupational Safety and Health Administration (OSHA) Personal Protective Equipment standards, as found in 29 CFR 1910.132 through 1910.138, conduct inspections of all workplaces to determine the need for PPE and to help in selecting the proper PPE for each task performed.

Management of **E-Con Electric Inc**, in conjunction with supervisors, will evaluate each work area to identify sources of hazards, including impact, penetration, compression, chemical, heat, dust, electrical sources, material handling, and light radiation. A certificate will be completed for each work location listing the findings of the inspection and the specific PPE needed for that location. Each survey will be documented, using the Certification of Hazard Assessment Form, identifying the workplace surveyed, the person conducting the survey, findings of potential hazards, and the date of the survey.

Once the hazards of a workplace have been identified, management of **E-Con Electric Inc** will determine the suitability of the PPE currently available. New or additional PPE will be selected by management, supervisors, and employees that ensure the level of protection greater than the minimum required to protect the employees from identified hazards. Care will be taken to recognize the possibility of multiple and simultaneous exposure to a variety of hazards. Adequate protection against the highest level of each of the hazards will be provided or recommended for purchase.

A written hazard assessment shall be performed and signed.

IV. Responsibilities

Management is responsible for the development, implementation, and administration of the Personal Protective Equipment Program. This includes:

- Conducting workplace hazard assessments to determine the presence of hazards that necessitate the use of PPE.
- Conducting periodic workplace reassessments as requested by supervisors and/or as determined by management.
- Maintaining records of hazard assessments.
- Providing training and technical assistance to supervisors on the proper use, care, and cleaning of approved PPE.
- Providing guidance to the supervisor for the selection and purchase of approved PPE.
- Periodically reevaluating the suitability of previously selected PPE.
- Reviewing, updating, and evaluating the overall effectiveness of the PPE Program.

Supervisors have the primary responsibility for implementation of the PPE Program in their work area. This involves:

- Providing appropriate PPE and making it available to employees.
- Selected PPE must be fitted to each affected employee.
- Ensuring employees are trained on the proper use, care, and cleaning of PPE.
- Maintaining records on PPE assignments and training.
- Supervising staff to ensure the PPE Program elements are followed and the employees properly use and care for PPE.
- Seeking assistance from management to evaluate hazards.
- Notifying management when new hazards are introduced or when processes are added or changed.
- Ensuring defective or damaged equipment is not used and immediately replaced.

Employees, as users, are responsible for following the requirements of the PPE Program. This involves:

- Wearing the PPE as required.
- Selected PPE must be fitted to each affected employee.
- Attending required training sessions.
- Informing the supervisor of the need to repair or replace PPE. Any PPE damaged equipment is not used and immediately replaced.

V. Protective Devices

All PPE will be of safe design and construction for the work to be performed and will be maintained in a sanitary and reliable condition. Only those items of protective clothing and equipment that meet ANSI (American National Standards Institute) or NIOSH (National Institute of Safety & Health) standards will be procured or accepted for use. Newly purchased PPE must conform to the updated ANSI standards which have been incorporated into the OSHA PPE regulations, as found in 29 CFR 1910.132 through 1910.138.

Careful consideration will be given to comfort and fit in order to ensure the PPE will be used. Protective devices are generally available in a variety of sizes. Care will be taken to ensure the right size is selected.

Employee-owned equipment shall be at discretion of the employer and responsible for the assurances of its adequacy, maintenance & sanitation. Employee owner equipment is the responsibility of the employee to replace at no cost to the Employer. E-Con Electric hold the right do have employee replace any PPE equipment that is in bad condition and unusable.

Eye and Face Protection

Prevention of eye injuries requires all persons who may be in eye hazard areas wear protective eyewear. This includes employees, visitors, contractors, or others passing through an identified eye hazard area. The supervisor of each identified eye hazard area will have a sufficient quantity of goggles and/or plastic eye protectors, which afford the maximum amount of protection possible. If the personnel wear personal glasses they will be provided with a suitable eye protector to wear over them. OSHA regulations require each affected employee who wears prescription lenses while engaged in operations involving eye hazards will wear eye protection that either incorporates the prescription into its design or wear eye protection worn over the prescription lenses without disturbing the proper position of the prescription lenses or the protective lenses. Personnel requiring prescription safety glasses should contact the main office to have their request for prescription safety glasses processed.

Suitable protectors will be used when employees are exposed to hazards from flying particles, molten metal, acids or caustic liquids, chemical liquids, gases or vapors, bioaerosols, or potentially injurious light radiation.

- Wearers of contact lenses must also wear appropriate eye and face protection devices in a hazardous environment.
- Side protectors will also be used when there is a hazard from flying objects.
- Goggles and face shields will be used when there is a hazard from chemical splash.
- Face shields will only be worn over primary eye protection (safety glasses or goggles).
- For those employees who wear prescription lenses, eye protectors will either incorporate the prescription in the design or fit properly over the prescription lenses.
- Protectors will be marked to identify the manufacturer.
- Equipment fitted with appropriate filter lenses will be used to protect against light radiation. Tinted or shaded lenses are not filter lenses unless they are marked or identified as such.

Emergency eyewash facilities, meeting the requirements of ANSI Z358.1, will be provided in all areas where the eyes of an employee will be exposed to corrosive materials. All emergency eyewash facilities will be located where they are easily accessible in an emergency.

Head Protection

Head protection will be furnished to, and used by all employees and contractors engaged in construction work, and in all work areas identified as required during the hazard assessment of that particular work area. Head protection will be worn when hazards from falling or fixed objects, or electrical shock are present.

Foot Protection

Safety shoes will be worn where identified as required during the hazard assessment of each particular work area.

- Safety shoes or boots, with impact protection, are required to be worn in work areas where carrying or handling materials such as packages, objects, parts or heavy loads, which could be dropped; and for other activities where objects might fall onto the feet.
- Safety shoes or boots, with compression protection, are required for work activities involving skid trucks (manual materials handling cars) or other activities in which materials or equipment could potentially roll over the feet of an employee.
- Safety shoes or boots, with puncture protection, are required where sharp objects such as nails, wire, tacks, screws, large staples, or scrap metal can be stepped on by employees.

Hand Protection

Suitable gloves will be worn when hazards from chemicals, cuts, lacerations, abrasions, punctures, burns, biologicals, or harmful temperature extremes are present. Glove selection will be based on performance characteristics of the gloves, conditions, duration of use, and hazards present.

In selecting gloves for use during chemical exposure the first consideration will be the exact nature of substances encountered. Read the instructions and warnings found on chemical containers and/or Material Safety Data Sheets (MSDS) prior to working with any chemical. Recommended glove types are usually listed in the section for personal protective equipment.

Cleaning and Maintenance

All PPE will be kept clean and properly maintained. Cleaning is particularly important for eye and face protection, where dirty or fogged lenses could impair vision. PPE should be inspected, cleaned, and maintained in reliable condition at regular intervals so the PPE provides the requisite protection. Personal protective equipment should not be shared between employees until it has been properly cleaned and sanitized. PPE will be distributed for individual use whenever possible.

Training

Any employee who is required to wear PPE will receive training in the proper use and care of the PPE. Initial training will be from instructional materials provided with the PPE by the manufacturer of the product. Periodic retraining will be offered to employees and supervisors as needed. Training will include, but not necessarily be limited to, the following subjects:

- When it is necessary for PPE to be worn.
- What PPE is necessary.
- How to properly don, doff, adjust, and wear PPE.
- The limitations of PPE.
- The proper care, maintenance, useful life, and disposal of the PPE.

After completion of the training employees will be required to demonstrate they understand the components of the Personal Protective Equipment Program, and how to use PPE properly, or they will be retrained.

Retraining will be conducted when the workplace changes making the earlier training obsolete, the type of PPE changes or when the employee demonstrates lack of use, improper use, or insufficient skill or understanding.

Recordkeeping

Written records will be kept with the names of the persons trained, the type of training provided, and the dates when training occurred. Training records will be maintained on each employee a minimum of 3 years. An evaluation for each work site, as recorded on the Hazard Assessment Certification Form, will be completed at minimum of each 3 years.

PPE Assessment Checklist

E-Con Electric Inc **Date:** _____

Complete if employees are subjected to eye, head, hand, foot, and/or dermal exposure.

General Policies

☐ Yes ☐ No Has a workplace survey been conducted to determine which PPE items are necessary?
☐ Yes ☐ No Is this survey documented?
☐ Yes ☐ No Is all protective equipment maintained in a sanitary condition and ready to use?
☐ Yes ☐ No Have employees been trained and tested on how and when to use PPE items?
☐ Yes ☐ No Are temporary or rotated shift employees, vendors, and visitors advised on the use of PPE items?
☐ Yes ☐ No Are these same groups required to wear PPE while in the work area?
☐ Yes ☐ No Has Material Safety Data Sheet information been surveyed for required PPE usage?
☐ Yes ☐ No Are employee training records maintained accurately and kept up to date?

Use and Disposal

☐ Yes ☐ No Are procedures in place for dE-Con Electric, Inctamination/disposal of PPE items?
☐ Yes ☐ No Are PPE items for reorder verified for the same level of protection when there is a change in manufacturer?
☐ Yes ☐ No Is the compatibility of replacement parts (such as respirator cartridges) also verified?
☐ Yes ☐ No Are procedures in place for cleaning up hazardous materials?

Vision Protection

☐ Yes ☐ No Are protective goggles, glasses, and face shields provided and worn when there is any danger of flying particles or corrosive materials?
☐ Yes ☐ No Are approved safety glasses required to be worn when there is a risk of eye injuries, such as punctures, abrasions, contusions, or burns?
☐ Yes ☐ No Are employees who use corrective lenses required to wear approved prescription safety glasses with goggles and face shields?

Apparel

☐ Yes ☐ No Are protective gloves, aprons, shields, or other precautions (protective cream) provided wherever there is a danger employees could be cut or exposed to corrosive, hazardous, or infectious materials?
☐ Yes ☐ No Are eyewash facilities and a quick drench shower within any work area where employees are exposed to injurious corrosives?
☐ Yes ☐ No Are hard hats inspected periodically for damage to the suspension system and the shell?
☐ Yes ☐ No Are employees who work in identified areas required to wear protective footwear?

Respirators, Hearing Protection

☐ Yes ☐ No Are approved respirators provided for regular or emergency use where needed?
☐ Yes ☐ No Is protection provided against occupational noise exposure when required?
☐ Yes ☐ No Is hearing testing also provided?

Personal Protective Equipment
Certification of Hazard Assessment Form

Location: _____ Date: _____

Specific Tasks Performed at this Location: _____

Analysis Conducted By: _____

I. Overhead Hazards

Hazards to consider include:

- Suspended loads that could fall
- Overhead beams or loads that could be hit against
- Energized wires or equipment that could be hit against
- Employees work at elevated site who could drop object on others below
- Sharp objects or corners at head level

Hazards Identified: _____

_____

	Yes	No
Head Protection	☐	☐

If yes, type:

☐ Type G (General) Impact & penetration resistance, low voltage exposure, proof-tested at 2,200 volts

☐ Type E (Electrical) Impact & penetration resistance, high voltage exposure, proof-tested at 20,000 volts

☐ Type C (Conductive) Impact & penetration resistance, no electrical exposure

II. Eye and Face Hazards

Hazards to consider include:

- Chemical splashes
- Smoke & fumes
- Lasers/optical radiation
- Projectiles
- Dust
- Welding operations
- Bioaerosols

Hazards Identified: _____

_____

	Yes	No
Eye Protection	☐	☐
Safety Glasses	☐	☐
Face Shields	☐	☐

III. Hand Hazards

Hazards to consider include:

- Chemicals
- Temperature extremes
- Exposed electrical
- Material handling
- Sharp edges, splinters
- Biological agents
- Sharp tools, machine parts

Hazards Identified: _____

_____

	Yes	No
Hand Protection	☐	☐
Gloves	☐	☐

☐ Chemical resistant
☐ Temperature resistant
☐ Abrasion resistant
☐ Other (Explain) _____

IV. Foot Hazards

Hazards to consider include:

- Heavy materials handled by employees
- Exposed electrical wires
- Wet conditions
- Sharp edges or points (puncture risk)
- Unusually slippery conditions
- Construction/demolition

Hazards Identified: _____

_____

	Yes	No
Foot Protection	☐	☐
Safety Shoes	☐	☐

Types:
☐ Toe protection
☐ Metatarsal protection
☐ Puncture resistant
☐ Electrical insulation
☐ Other (Explain) _____

V. Other Identified Safety and/or Health Hazards:

Hazards Identified	Recommended Protection

I certify that the above inspection was performed to the best of my knowledge and ability, based on the hazards present on this day.

_____
E-Con Electric Inc

_____
Date

Personal Protective Equipment
Certification of Training

Name of Employee: ______________________________

PPE Training Subject	Dates of Training	Initials of Trainer

Respiratory Protection Program

E-Con Electric Inc

Respiratory Protection Program

The detailed requirement of the Occupational Safety and Health Administration (OSHA) Respiratory Protection Standard are found in 29 CFR 1910.134 and the included Appendix A, B, C, and D. The application of these requirements in the affected workplaces will promote more effective use of respirators and help provide for the safety and health of employees.

Generally businesses are required to establish a respiratory protection program whenever employees:

- work in situations where the level of oxygen is insufficient, or potentially insufficient,
- are potentially exposed to harmful levels of hazardous gases or vapors, or
- are exposed to other potential respiratory hazards, such as dust, mists, fumes, sprays and other airborne particles.

Engineering and work practice controls should be the primary means used to reduce employee exposure to toxic chemicals, and that respirators should only be used if engineering or work practice controls are infeasible or while they are being implemented. This preference for engineering and work practice controls is stated in a number of OSHA's standards and in the standards establishing permissible exposure limits for a number of harmful air contaminants. Feasible engineering, administrative, or work practice controls should be used in conjunction with respirators even though such controls may not be sufficient to reduce exposure to or below the permissible exposure limit (PEL).

It is imperative for the employer to provide the right type of respirator for the substance and level of exposure involved. The employer is responsible for identifying and evaluating the respiratory hazards in the workplace. This evaluation should be a reasonable estimate of employee exposures to respiratory hazards and an identification of the contaminant's chemical state and physical form. The evaluation can be completed by:

- Identifying the chemicals to which employees are exposed and evaluating the chemical hazards. Where exposure cannot be indentified or reasonably estimated, the atmosphere should be considered immediately dangerous to life or health (IDLH). All oxygen-deficient atmospheres (less than 19.5% O2 by volume) are considered IDLH.
- Determining the state and physical form of the chemicals. Are they solids, liquids of gases? Do the liquids and solids give off vapors or do they form dusts or mists?
- Estimating or measuring employee exposures to the hazards.

The employer is then required to select and provide an appropriate respirator based on the respiratory hazards to which the worker is exposed. Note that some chemical substances have very specific criteria that must be used in estimating the exposure.

A written respiratory protection program is required when necessary to protect the health of the employee from workplace contaminants or when the employer requires the use of respirators. A limited written program is also required when respirators (other than filtering face pieces) are being voluntarily worn by employees.

The OSHA published a Small Entity Compliance Guide to help businesses understand the Respiratory Protection Standard. It provides guidance only and does not replace the official Respiratory Protection Standard (29 CFR 1910.134), which must be referred to for compliance. A sample respiratory protection program is provided as a part of the Small Entity Compliance Guide. It is suggested that this program be read, analyzed, and adapted to meet the needs of your program. Keep in mind, however, that there is often more than one way to implement certain requirements of the standard in a particular workplace setting.

Eight Steps for an Effective Respiratory Protection Program

The program must include workplace specific procedures and contain all applicable program elements. Where respirators are required, respirators (and their associated requirements such as fit-testing and maintenance), training, and medical evaluations must be provided at no cost to the employee. If employers allow the voluntary use of respirators other than filtering face pieces, the costs associated with ensuring the respirator itself does not create a hazard, such as medical evaluations and maintenance must be provided at no cost to the employee.

1. **Administration**
   Put one person in charge of the entire program. This person should have knowledge about the respiratory protection standards and methods of hazard control.

2. **Defining Respiratory Hazards**
   Consider the possibility of oxygen deficient atmospheres. Study all the contaminants that could cause trouble for your employees. Determine the permissible exposure limit of the contaminants.

3. **Hazard Assessment**
   Review your entire operation and locate any potential hazards. Sample and test with the proper equipment during operations. Take samples in the work area frequently enough to cover the range of average exposures.

4. **Hazard Controls**
   Engineering controls should be used whenever possible to reduce or eliminate an employee's exposure to contaminants. When this cannot eliminate all exposure, appropriate protection equipment should be provided to all employees.

5. **Selection of Respiratory Protection**
   On the basis of your hazard assessment, select a protective device which gives the desired protection. Respirators are selected according to the type and concentration of airborne contaminant that is present. The selection must use the regulated assigned protection factors. Respirators should have a maximum use concentration indicated to assure it is capable of providing the needed protection. Approved respirators shall be furnished at no cost to the employee.

   A) Rescue service must be on-site for immediately dangerous to life and health (IDLH) conditions while work is being performed.

6. **Training**
   All employees who are required to wear respiratory protection devices should be thoroughly trained on the use of the device, the nature of the hazard, its potential harm, and the limitations of the device. All training should be followed by close field supervision. Annual training is required. Since a persons facial characteristics may change through time, fit testing should be done annually, as well, and could be done at the same time as the training.

7. **Inspection, Maintenance, and Repair**
   A written, mandatory procedure for the inspection, maintenance, and repair of the protective devices should be developed. This program should include adequate documentation of all work performed. The expected service life for the selected respirators must be determined or a change schedule is needed.

8. **Medical Surveillance**
   Employees who are either required to wear respirators, or who choose to wear an air purifying respirator voluntarily, must pass a medical exam before being permitted to wear a respirator on the job. Employees are not permitted to wear respirators until a physician has determined that they are medically able to do so. Any employee refusing the medical evaluation will not be allowed to work in an area requiring respirator use. The voluntary use of a filtering face piece respirator does not generally require medical evaluation. In addition to a regular program of pre-employment medical evaluation, a process of medical monitoring can help determine the success of the respiratory protection program.

Medical evaluation prior to fit-testing be confidential, during normal working hours, convenient, understandable, and the employee given a chance to discuss the results with the physician or other licensed health care professional (PLHCP).

A) Rescue service must be on-site for immediately dangerous to life and health (IDLH) conditions while work is being performed.

Employee Training

Employee training is a critical part of a successful respiratory protection program and is essential for correct respirator use. Training must be provided to all employees who are required to wear respirators. Training must address the identification of hazards, the extent of employee exposure to those hazards, and the potential health effects of exposure. The training that is required under the Hazard Communication standard (29 CFR 1910.1200) can help satisfy this requirement for chemical hazards.

Initial comprehensive training provided and must be repeated at least annually thereafter. Employees must understand that proper fit, usage, and maintenance of respirators is critical to ensure that they can perform their protective function. Basic information on the proper use of respirators should be presented to the employee either verbally or in written form, if the employee chooses to wear a respirator but is not required to do so.

For those that are not required to wear a respirator, the company will generally provide employees who voluntarily choose to wear a respirator with a copy of Appendix D of the standard. (Appendix D details the requirements for voluntary use of respirators by employees.)

Appendix D (Mandatory) of the standard covers Information for Employees Using Respirators When Not Required Under the Standard, and states:

“Respirators are an effective method of protection against designated hazards when properly selected and worn. Respirator use is encouraged, even when exposures are below the exposure limit, to provide and additional level of comfort and protection for workers. However, if a respirator is used improperly or not kept clean, the respirator itself can become a hazard to the worker. Sometimes, workers may wear respirators to avoid exposures to hazards, even if the amount of hazardous substances does not exceed the limits set by OSHA standards. If your employer provides respirators for your voluntary use, or if you provide your own respirator, you need to take certain precautions to be sure that the respirator itself does not present a hazard.

You should do the following:

1. Read and heed all instructions provided by the manufacturer on use, maintenance, cleaning, and care, and warnings regarding the respirators limitations.
2. Choose respirators certified for use to protect against the contaminant of concern. NIOSH, the National Institute of Safety and Health of the U. S. Department of Health and Human Services, certifies respirators. A label or statement of certification should appear on the respirator or respirator packaging. It will tell you what the respirator is designed for and how much it will protect you.
3. Do not wear your respirator into atmospheres containing contaminants for which your respirator is not designed to protect against. For example, a respirator designed to filter dust particles will not protect you against gases, vapors, or very small solid particles of fumes or smoke.
4. Keep track of your respirator so that you do not mistakenly use someone else’s respirator.

Respirator Inspection and Maintenance

General Guidelines:

Anyone wearing a respirator must inspect it daily whenever it is in use.

Fit-testing of tight-fitting face pieces by qualitative or quantitative methods.

Employees cannot wear tight-fitting face pieces if the seal is broken because of facial hair, glasses, etc.

Employees must leave the area to wash, change cartridges, or if they detect break-through or resistance.

Supervisors will periodically spot check respirators for fit, usage and condition.

An end of service life or change schedule must be determined for all cartridge respirators. Reliance on odor thresholds and other warning properties will not be permitted as the primary basis for determining the service life of gas and vapor cartridges and canisters.

A general "rule of thumb" that should only be used with a more precise method of predicting service life for specific contaminants suggests that:

- If the chemical's boiling point is > 70 °C and the concentration is less than 200 ppm you can expect a service life of 8 hours at a normal work rate.
- Service life is inversely proportional to work rate. A faster work pace increases ones breathing rate which decreases the life of a respirator.
- Reducing the contaminant concentration by a factor of 10 will increase service life by a factor of 5.
- Humidity above 85% will reduce service life by 50%.

Respirators not discarded after one shift must be cleaned on a daily basis, in accordance to the manufacturer's recommendations. All cleaning of respirators is to be done by individuals trained in the procedure.

Respirators not discarded after one shift must be stored in a suitable container and located in an area away from contamination.

If a respirator is used by more than one individual it must be properly cleaned between uses. Each area requiring the regular use of respirators will maintain a log book. Employees not discarding respirators after one shift should sign this log to document the inspection and maintenance of their respirator.

The OSHA Standard 1910.134 for respiratory protection Appendix A, describes mandatory fit testing procedures; Appendix B-1 describes mandatory user seal check procedures; and Appendix B-2 describes mandatory respiratory cleaning procedures.

Inspection Procedures:

The following procedure is the responsibility of each person using a cartridge respirator; they must be trained before being allowed to use the respirator. The respirator must be inspected before each use to ensure it is in proper operating condition, and any damaged or defective part must be repaired or replaced.

Check the faceplates for cracks, tears, and dirt. Be certain the faceplate, especially the face seal area, is not distorted. The material must be pliable, not stiff.

Examine the inhalation valves for signs of distortion, cracking, or tearing. Lift valves and inspect the valve seats for dirt or cracking.

Determine that the head straps are intact and have good elasticity.

Examine all plastic parts for signs of cracking or fatigue. Make sure the gaskets are properly sealed.

Remove the exhalation valve cover and examine the valve and valve seat for signs of dirt, distortion, cracking, or tearing. Replace the exhalation cover.

Assembling and Fitting a Respirator:

To attach the cartridge to the respirator faceplate, remove the retainer cap from the cartridge holder. Make sure the rubber gasket is properly seated in the slot around the base of the holder. If the gasket is twisted or out of its slot, the respirator may leak. Replace or reseat the gasket if necessary.

Place the filter cartridge into the holder. The high efficiency cartridge must be placed with the large solid center dot facing out away from the respirator.

If used, place the pre-filer on top of the cartridge. The printed side of the filter should face the cartridge.

Place the retainer over the filter and rotate it clockwise until tight. Twisting the retainer too tightly can result in distortion and may cause leakage.

Place the respirator over the mouth and nose. Then pull the head harness over the crown of the head.

Take the bottom straps, in both hands, place them in back of the neck and hook them together.

Pull the ends of the head harness and bottom straps to adjust the tightness.

Maintenance and Disassembly:

Cleaning is recommended after each use. Disassemble by removing the cartridge, headbands and other parts.

Clean and sanitize the masks by immersing them in a warm water solution and scrubbing with a soft brush until clean. Use cleaning solutions recommended by the manufa352cturer.

Rinse in fresh, warm water and air dry in an uncontaminated area.

Maintenance and care of respirators to ensure they are clean and sanitary is responsibility of the employee.

Respirators components, especially the exhalation valve and seat valve should be inspected with any worn or deteriorated parts being replaced.

Assembly:

Place the exhalation valve on its post, making certain that it seats to the flared top of the post. Fit the valve cover to the hinged end of the seat, then firmly snap the cover closed.

Place the valve assembly into the bottom opening of the face piece with the arrow pointing directly at the arrow on the face piece.

Replace the face piece yoke, making certain that the hole in the yoke engages the rubber button on the face piece. Moisten the rubber button for easier assembly.

Attach the straps to the yoke by placing the tee-bar into the slot while sliding the tab over the outside of the yoke. Rotate ¼ turn to lock in place.

Place the cartridge into the side ports of the face piece. Make certain that the arrow on the holder is pointed toward the upper arrow on the inside of the face piece.

Storage:

The respirator must be placed in a clean container and stored at room temperature in a dry and uncontaminated atmosphere.

OSHA Respirator Medical Evaluation Questionnaire (Mandatory)

(Appendix C to Sec. 1910.134)

To the employer: Answers to questions in Section 1, and to question 9 in Section 2 of Part A, do not require a medical examination.

To the employee:

Your employer must allow you to answer this questionnaire during normal working hours, or at a time and place that is convenient to you. To maintain your confidentiality, your employer or supervisor must not look at or review your answers, and your employer must tell you how to deliver or send this questionnaire to the health care professional who will review it.

Part A. Section 1. (Mandatory) The following information must be provided by every employee who has been selected to use any type of respirator (please print).

1. Today's date: _____
2. Your name: _____
3. Your age (to nearest year): _____
4. Sex (circle one): Male/Female
5. Your height: _____ ft. _____ in.
6. Your weight: _____ lbs.
7. Your job title: _____
8. A phone number where you can be reached by the health care professional who reviews this questionnaire (include the Area Code): _____
9. The best time to phone you at this number: _____
10. Has your employer told you how to contact the health care professional who will review this questionnaire (circle one): Yes/No
11. Check the type of respirator you will use (you can check more than one category):
    a. _____ N, R, or P disposable respirator (filter-mask, non-cartridge type only).
    b. _____ Other type (for example, half- or full-facepiece type, powered-air purifying, supplied-air, self-contained breathing apparatus).
12. Have you worn a respirator (circle one): Yes/No

    If "yes," what type(s):

    _____

Part A. Section 2. (Mandatory) Questions 1 through 9 below must be answered by every employee who has been selected to use any type of respirator (please circle "yes" or "no").

1. Do you ***currently*** smoke tobacco, or have you smoked tobacco in the last month: Yes/No

2. Have you ***ever had*** any of the following conditions?
   a. Seizures: Yes/No
   b. Diabetes (sugar disease): Yes/No
   c. Allergic reactions that interfere with your breathing: Yes/No
   d. Claustrophobia (fear of closed-in places): Yes/No
   e. Trouble smelling odors: Yes/No

3. Have you ***ever had*** any of the following pulmonary or lung problems?
   a. Asbestosis: Yes/No
   b. Asthma: Yes/No
   c. Chronic bronchitis: Yes/No
   d. Emphysema: Yes/No
   e. Pneumonia: Yes/No
   f. Tuberculosis: Yes/No
   g. Silicosis: Yes/No
   h. Pneumothorax (collapsed lung): Yes/No
   i. Lung cancer: Yes/No
   j. Broken ribs: Yes/No
   k. Any chest injuries or surgeries: Yes/No
   l. Any other lung problem that you've been told about: Yes/No

4. Do you ***currently*** have any of the following symptoms of pulmonary or lung illness?
   a. Shortness of breath: Yes/No
   b. Shortness of breath when walking fast on level ground or walking up a slight hill or incline: Yes/No
   c. Shortness of breath when walking with other people at an ordinary pace on level ground: Yes/No
   d. Have to stop for breath when walking at your own pace on level ground: Yes/No
   e. Shortness of breath when washing or dressing yourself: Yes/No
   f. Shortness of breath that interferes with your job: Yes/No
   g. Coughing that produces phlegm (thick sputum): Yes/No
   h. Coughing that wakes you early in the morning: Yes/No
   i. Coughing that occurs mostly when you are lying down: Yes/No
   j. Coughing up blood in the last month: Yes/No
   k. Wheezing: Yes/No
   l. Wheezing that interferes with your job: Yes/No
   m. Chest pain when you breathe deeply: Yes/No
   n. Any other symptoms that you think may be related to lung problems: Yes/No

5. Have you ***ever had*** any of the following cardiovascular or heart problems?
   a. Heart attack: Yes/No
   b. Stroke: Yes/No
   c. Angina: Yes/No
   d. Heart failure: Yes/No
   e. Swelling in your legs or feet (not caused by walking): Yes/No
   f. Heart arrhythmia (heart beating irregularly): Yes/No
   g. High blood pressure: Yes/No
   h. Any other heart problem that you've been told about: Yes/No

6. Have you ***ever had*** any of the following cardiovascular or heart symptoms?
    a. Frequent pain or tightness in your chest: Yes/No
    b. Pain or tightness in your chest during physical activity: Yes/No
    c. Pain or tightness in your chest that interferes with your job: Yes/No
    d. In the past two years, have you noticed your heart skipping or missing a beat: Yes/No
    e. Heartburn or indigestion that is not related to eating: Yes/No
    f. Any other symptoms that you think may be related to heart or circulation problems: Yes/No

7. Do you ***currently*** take medication for any of the following problems?
    a. Breathing or lung problems: Yes/No
    b. Heart trouble: Yes/No
    c. Blood pressure: Yes/No
    d. Seizures: Yes/No

8. If you've used a respirator, have you ***ever had*** any of the following problems? (If you've never used a respirator, check the following space and go to question 9:)
    a. Eye irritation: Yes/No
    b. Skin allergies or rashes: Yes/No
    c. Anxiety: Yes/No
    d. General weakness or fatigue: Yes/No
    e. Any other problem that interferes with your use of a respirator: Yes/No

9. Would you like to talk to the health care professional who will review this questionnaire about your answers to this questionnaire: Yes/No

Questions 10 to 15 below must be answered by every employee who has been selected to use either a full-facepiece respirator or a self-contained breathing apparatus (SCBA). For employees who have been selected to use other types of respirators, answering these questions is voluntary.

10. Have you ***ever lost*** vision in either eye (temporarily or permanently): Yes/No

11. Do you ***currently*** have any of the following vision problems?
    a. Wear contact lenses: Yes/No
    b. Wear glasses: Yes/No
    c. Color blind: Yes/No
    d. Any other eye or vision problem: Yes/No

12. Have you ***ever had*** an injury to your ears, including a broken ear drum: Yes/No

13. Do you ***currently*** have any of the following hearing problems?
    a. Difficulty hearing: Yes/No
    b. Wear a hearing aid: Yes/No
    c. Any other hearing or ear problem: Yes/No

14. Have you ***ever had*** a back injury: Yes/No

15. Do you ***currently*** have any of the following musculoskeletal problems?
    a. Weakness in any of your arms, hands, legs, or feet: Yes/No
    b. Back pain: Yes/No
    c. Difficulty fully moving your arms and legs: Yes/No
    d. Pain or stiffness when you lean forward or backward at the waist: Yes/No
    e. Difficulty fully moving your head up or down: Yes/No
    f. Difficulty fully moving your head side to side: Yes/No
    g. Difficulty bending at your knees: Yes/No
    h. Difficulty squatting to the ground: Yes/No
    i. Climbing a flight of stairs or a ladder carrying more than 25 lbs: Yes/No
    j. Any other muscle or skeletal problem that interferes with using a respirator: Yes/No

Part B Any of the following questions, and other questions not listed, may be added to the questionnaire at the discretion of the health care professional who will review the questionnaire.

1. In your present job, are you working at high altitudes (over 5,000 feet) or in a place that has lower than normal amounts of oxygen: Yes/No

   If "yes," do you have feelings of dizziness, shortness of breath, pounding in your chest, or other symptoms when you're working under these conditions: Yes/No

2. At work or at home, have you ever been exposed to hazardous solvents, hazardous airborne chemicals (e.g., gases, fumes, or dust), or have you come into skin contact with hazardous chemicals: Yes/No

   If "yes," name the chemicals if you know them: _____

   _____

   _____

3. Have you ever worked with any of the materials, or under any of the conditions, listed below:
   a. Asbestos: Yes/No
   b. Silica (e.g., in sandblasting): Yes/No
   c. Tungsten/cobalt (e.g., grinding or welding this material): Yes/No
   d. Beryllium: Yes/No
   e. Aluminum: Yes/No
   f. Coal (for example, mining): Yes/No
   g. Iron: Yes/No
   h. Tin: Yes/No
   i. Dusty environments: Yes/No
   j. Any other hazardous exposures: Yes/No

   If "yes," describe these exposures: _____

   _____

   _____

4. List any sE-Con Electric, Incd jobs or side businesses you have: _____

   _____

5. List your previous occupations: _____

   _____

6. List your current and previous hobbies: _____

   _____

7. Have you been in the military services? Yes/No

   If "yes," were you exposed to biological or chemical agents (either in training or combat): Yes/No

8. Have you ever worked on a HAZMAT team? Yes/No

9. Other than medications for breathing and lung problems, heart trouble, blood pressure, and seizures mentioned earlier in this questionnaire, are you taking any other medications for any reason (including over-the-counter medications): Yes/No

   If "yes," name the medications if you know them: _____

10. Will you be using any of the following items with your respirator(s)?
    a. HEPA Filters: Yes/No
    b. Canisters (for example, gas masks): Yes/No
    c. Cartridges: Yes/No

11. How often are you expected to use the respirator(s) (circle "yes" or "no" for all answers that apply to you)?:
    a. Escape only (no rescue): Yes/No
    b. Emergency rescue only: Yes/No
    c. Less than 5 hours ***per week***: Yes/No
    d. Less than 2 hours ***per day***: Yes/No
    e. 2 to 4 hours per day: Yes/No
    f. Over 4 hours per day: Yes/No

12. During the period you are using the respirator(s), is your work effort:

    a. ***Light*** (less than 200 kcal per hour): Yes/No

       If "yes," how long does this period last during the average shift: _____ hrs. _____ mins.

       Examples of a light work effort are sitting while writing, typing, drafting, or performing light assembly work; or ***standing*** while operating a drill press (1-3 lbs.) or controlling machines.

    b. ***Moderate*** (200 to 350 kcal per hour): Yes/No

       If "yes," how long does this period last during the average shift: _____ hrs. _____ mins.

       Examples of moderate work effort are ***sitting*** while nailing or filing; ***driving*** a truck or bus in urban traffic; ***standing*** while drilling, nailing, performing assembly work, or transferring a moderate load (about 35 lbs.) at trunk level; ***walking*** on a level surface about 2 mph or down a 5-degree grade about 3 mph; or ***pushing*** a wheelbarrow with a heavy load (about 100 lbs.) on a level surface.

    c. ***Heavy*** (above 350 kcal per hour): Yes/No

       If "yes," how long does this period last during the average shift: _____ hrs. _____ mins.

       Examples of heavy work are ***lifting*** a heavy load (about 50 lbs.) from the floor to your waist or shoulder; working on a loading dock; ***shoveling; standing*** while bricklaying or chipping castings; ***walking*** up an 8-degree grade about 2 mph; climbing stairs with a heavy load (about 50 lbs.).

13. Will you be wearing protective clothing and/or equipment (other than the respirator) when you're using your respirator: Yes/No

    If "yes," describe this protective clothing and/or equipment: _____

    _____

14. Will you be working under hot conditions (temperature exceeding 77 deg. F): Yes/No

15. Will you be working under humid conditions: Yes/No

16. Describe the work you'll be doing while you're using your respirator(s): _____

    _____

    _____

17. Describe any special or hazardous conditions you might encounter when you're using your respirator(s) (for example, confined spaces, life-threatening gases): _____

    _____

    _____

18. Provide the following information, if you know it, for each toxic substance that you'll be exposed to when you're using your respirator(s):

    Name of the first toxic substance: _____
    Estimated maximum exposure level per shift: _____
    Duration of exposure per shift: _____
    Name of the sE-Con Electric, Incd toxic substance: _____
    Estimated maximum exposure level per shift: _____
    Duration of exposure per shift: _____
    Name of the third toxic substance: _____
    Estimated maximum exposure level per shift: _____
    Duration of exposure per shift: _____
    The name of any other toxic substances that you'll be exposed to while using your respirator:

    _____
    _____
    _____

19. Describe any special responsibilities you'll have while using your respirator(s) that may affect the safety and well-being of others (for example, rescue, security):

    _____
    _____
    _____
    _____
    _____
    _____
    _____
    _____
    _____
    _____
    _____
    _____
    _____

Qualitative and Quantitative Fit Test Record

Employees using a tight-fitting facepiece respirator must pass an appropriate fit test annually.

A fit test record is retained for each respirator user until the next fit test is administered.

Date of test: _____

The name or identification of the employee tested: _____

Specific respirator tested:

Make: _____

Model: _____

Style: _____

Size: _____

Check the type of fit test performed and provide results. See 1910.134 Appendix A (Mandatory)

Qualitative Fit Tests

- ☐ Isoamyl Acetate Protocol
- ☐ Saccharin Solution Aerosol Protocol
- ☐ Denatonium Benzoate Protocol
- ☐ Stannic Chloride Protocol

For Qualitative Fit Tests, Check one:

Pass: _____

Fail: _____

Quantitative Fit Tests

- ☐ Generated Aerosol Protocol
- ☐ Ambient Aerosol (CNC) Protocol
- ☐ Controlled Negative Pressure Protocol
- ☐ Controlled Negative Pressure REDON Protocol

For Quantitative Fit Tests, attach fit factor and strip chart recording or other recording of the test results.

Return-to-Work & Light Duty Job Program

Return-to-Work & Light Duty Job Program
A Guide to Implementation

Wage loss benefits to injured workers make up almost 50 percent of a typical workers compensation claim. These costs result in higher experience modifications which, in turn, result in higher premiums. A systematic method of getting an injured employee back to work as quickly as possible can impact these costs, thus reducing **your** premiums.

How to Institute Return-to-Work & Light Duty Job Program:

Develop a Return-to-Work & Light Duty Job Policy Statement:

- Put it in writing;
- Communicate the policy to all employees;
- Emphasize your commitment to get injured employees back to productive work as quickly as possible;
- List some of the light duty jobs that will be made available; and
- Indicate your willingness to provide work that meets the employee's physical limitations.

Designate person(s) responsible for the administration of the program. This person should be responsible for:

- Reporting claims to the insurance company promptly;
- Keeping a supply of forms used:
  - Claims forms
  - Return-to-Work Agreement
  - Return-to-Work Authorization Form
- Keeping a list of key contact people and telephone numbers:
  - Claims person
  - Designated physician

Designate a company physician.

- Communicate this to all employees;
- In most cases, have a/the supervisor take the injured employee to the physician;
- Have the injured employee bring a Return-to-Work Authorization Form to the physician to be completed and returned to the employer as soon as possible.

Contact your injured employee if he/she does not return to work immediately.

- Explain to the employees that you value them and would like to have them back to work as soon as possible.
- Contact your employee on a regular basis to check on his/her status.
- Stress your commitment to returning the employee to work as soon as possible.
- Explain that you have light duty and transitional work available that may meet his/her physical limitations.

When the employee returns to work:

- Complete the Return-to-Work Agreement with the injured employee;
- Have the employee perform appropriate light duty or transitional work; and
- Regularly evaluate the employee's physical capabilities.

Key Contact People

Insurance Company

Name: _____

Mailing Address: _____

City, State, Zip: _____

Phone Number: _____

Designated Physician

Name: _____

Mailing Address: _____

City, State, Zip: _____

Phone Number: _____

State Workers Compensation Division

Name: _____

Mailing Address: _____

City, State, Zip: _____

Phone Number: _____

Return to Work Authorization Form

Our company has a light duty and transitional work program which provides temporary jobs that injured employees should be able to safely perform during their recovery periods. Completion of this form will allow us to identify an appropriate assignment for this employee. Thank you for your cooperation and prompt response.

Employee ______________________________ Employer E-Con Electric Inc
Employer Contact Person ______________________________ Phone ______________________
Date ______________________ Applicable Shift Duration ______________________________

★ ★

Diagnosis ____
Work Related ☐ Submit Claim to: ____
Non-work Related ☐ Submit Claim to: ____
Treatment ____
Disposition: ☐ Return to work date (no limitations) ______________________________
☐ Return to work date (with limitations) ______________________________
☐ Unable to work From ____________________ To ______________________
☐ Return to Clinic on ____
Prognosis ____
Referral to: To Consultant – Doctor ______________________ Date & Time ________________
Physical therapy ______________________________ Frequency __________________

Work Restrictions

Restrictions apply to: Work ☐ Home ☐ Leisure ☐
During the applicable workday, this employee can:
Sit _________ Hours Stand _________ Hours Walk _________ Hours

In terms of an applicable work day, "occasionally" equals 1-33%, "frequently" equals 34-66%, and "continuously" equals 67-100%.

Employee Can:	Never	Occasionally	Frequently	Continuously
Lift and carry:				
up to 10 pounds	________	________	________	________
11 - 25 pounds	________	________	________	________
26 - 35 pounds	________	________	________	________
36 - 50 pounds	________	________	________	________
51 - 75 pounds	________	________	________	________
76 - 100 pounds	________	________	________	________
Reach above shoulder level	________	________	________	________
Push / Pull	________	________	________	________
Climb	________	________	________	________
Crawl	________	________	________	________
Squat / Kneel	________	________	________	________
Bend / Stoop / Crouch	________	________	________	________
Balance	________	________	________	________
Twist upper body	________	________	________	________
Use hands dexterously	________	________	________	________

☐ No operation moving equipment or machinery
☐ No exposure to chemicals (Specify) ______________________________________
☐ No static position (Specify) ____
☐ Other ____
Physician's Comments____
____

Physician ______________________________________ Date ____________________

Return-To-Work Agreement

Employer: **E-Con Electric Inc** ("We" herein).

Employee: _____ ("You" herein).

We agree that the following represents the restrictions under which you are able and have agreed to return to work as of _____.

Those restrictions are:

- _____
- _____
- _____

We will not require you to perform any tasks beyond those restrictions. If you are asked to perform such a task by any of our employees or agents, please decline. They may not be aware of your restrictions.

By signing below, you agree and verify that you will not do anything beyond the noted restrictions either here at work, beyond the work site, at home or at recreation until such time as the doctor has released the restrictions and we have been notified to that effect.

_____
Signature - Employer

_____
Signature - Employee

_____
Date

Important: This specimen form may not comply with the laws of your state.

Return-to Work & Light Duty Job Policy

If you become ill or injured as a result of a job related accident, you will be missed by other employees working in your department. Employees have a responsibility to return to work at the earliest possible time, commensurate with your health and safety.

We will actively seek to return disabled employees covered by workers compensation to productive work as quickly as possible, in cooperation with the employee's physician or health care provider.

If necessary, a temporary job may be provided for you that is within your physical capabilities, consistent with company needs. Even working at partial capacity will assist your fellow employees in completing the work. Efforts will be made to return you to your previous job, when possible.

Listed below are some examples of light duty jobs which we have available for you to do, depending upon your injury, capabilities and company need.

_____

_____

_____

(This form to be posted at each premises)

Owner/Officer Signature	Title	Date

Important: This specimen form may not comply with the laws of your state.

Seat Belt Use Policy

Seat Belt Use Policy

E-Con Electric Inc values the lives and safety of our employees. Wearing a seat belt helps reduce the risk of serious injury or death in motor vehicle accidents. Accordingly, the policy of **E-Con Electric Inc** is employees and passengers are required to wear a seat belt when driving or riding in any motor vehicle on company business.

Employee Acknowledgement

I understand failure to abide by the above policy will result in disciplinary action, which may include suspension without pay or termination of employment.

Signature of Employee

Date

SUBCONTRACTOR MANAGEMENT PLAN

- Subcontractors will be pre-qualified to work for E-CON based on a review of their acquired insurance policies and their safety programs, safety training documents, and safety statistics.
- Subcontractors shall maintain, in full force and effect during the time period in which an action or claim could be brought against E-CON under the Subcontractor Agreement insurance coverages or the minimum legal limits, whichever is greater as designated in the Subcontractor Agreement.
- Subcontractors will be selected (in part) by meeting acceptable safety metrics. The following safety standards are required to qualify to work for E-CON:
    a. Have a written Safety Policy which is endorsed by the subcontractor president/CEO.
    b. Conduct periodic safety training with its employees.
    c. Maintain an Experience Modifier Rate (EMR) of s;: 1.0 for the past three reporting years. The subcontractor will submit these via their insurance company or agent.
- Subcontractor principles and supervisors will be attend pre-job (kick-off) meetings.
- Subcontractor employees will attend safety orientations and weekly safety meetings.
- Subcontractor employees will participate in the hazard identification processes by conducting periodic on the job safety inspections and reviews as designated by the E-CON area foremen.
- Subcontractor principles will participate in a post-job safety performance review with the E-CON manager. Any incidents, injuries, or close calls will be discussed. Additionally, subcontractor involvement/participation in E-CON's safety programs will be evaluated and discussed. This review will be documented and maintained by the E-CON manager for possible future subcontractor employment.