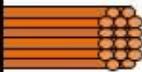


**ANDERSON**

Electrical Contractors Ltd.



CT License #0123846 – E1

**SAFETY**

**MANUAL**

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*We are an equal opportunity employer*

## PREFACE

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### **NECA STANDING POLICY ON SAFETY, SAFETY PROGRAMS AND SAFE WORKERS**

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NECA believes that safety is an integral part of achieving excellence in the electrical contracting business by maintaining the highest productivity, quality, and safety standards in a proactive, practical, and cost effective approach to manage organizational loss control. NECA members demonstrate safety professionalism and responsibility through every aspect of work and services they provide including designing, planning, construction, service work, and implementing operations with a minimum of disruption to customers. NECA's commitment to jobsite safety is reinforced by placing special emphasis in quality safety training programs that integrate safety into project pre-planning and project management.

NECA, historically, has supported and continues to support the highest safety standards in construction for the benefit of its members, the industry and the consuming public. NECA actively advocates maintaining the safest and most productive workplace possible. NECA members appreciate the benefits of a workplace free from injuries, the advantage of a productive work force, and the responsibility of offering a safe working environment. To that end, NECA believes that to achieve *zero injuries* in the workplace, members must strive for *zero energy work environments* as the normal and best practice, whenever achievable.

NECA members understand jobsite safety is an important responsibility shared between employers and employees and affirms that implementing safe work practices is not optional. The association believes that a trained and qualified workforce has

responsibility to recognize and avoid workplace hazards and, where necessary, employers provide appropriate personal protective equipment for workers exposed to work-place hazards.

NECA remains active in government relations and rulemaking processes related to worker safety. The association actively participates in electrical safety standard development, such as NFPA 70 the *National Electrical Code*, and *NFPA 70E Standard for Electrical Safety in the Workplace* and other safety legislation that affects the industry. NECA is committed to supporting collaborative effective efforts in industry alliances and partnerships sharing common safety objectives.

The goal of NECA members is to maintain a safe and healthy workplace for all employees and to foster efficient operations, thereby offering the best possible product and services to the construction customer. Effective safety-related work practices and principles must be integrated into the planning and installation of electrical work as well as into design.

NECA members recognize that implementing effective safety programs and safe work practices is often challenged by cultural differences and other distractions that are not in best interest of employees or employers and they are dedicated to solving these problems while establishing and maintaining safety in the workplace. *Safety Excellence* results from safe work practices that continuously strive for *Zero Injuries*. NECA's commitment to safety excellence and safe work environments remains active, focused and constant.

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# ADMINISTRATIVE PROCEDURES

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## **A. PURPOSE AND SCOPE**

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The goal of this program is to provide information for this company to conduct their operations so that injuries to people, damage to property and/or the environment will be avoided. Every effort will be made to prevent accidents. The objective is to provide a clean, safe and healthy working environment for all employees. It is this company's intention to comply with all safety and health standards that are enforced by local, state or federal authorities.

The Administrative Procedures identified here more specifically address the requirements as identified in 1926.20(b) Accident prevention responsibilities to initiate and maintain such programs and 1926.21 Safety training and education to recognize, avoid and prevent unsafe conditions.

This company will provide engineering controls, administrative controls, personal protective equipment and training to abate hazards and to prevent injury and illness. This company has developed policies, rules and procedures which will contribute to the safety of all employees.

## **B. RESPONSIBILITIES**

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### **Safety Director**

The Safety Director will:

- Monitor the implementation and enforcement of the policies and procedures established by this safety program as well as the requirements set forth by federal, state and local regulations.
- Serve as the Chairman of the Safety Committee and ensure that the following actions are implemented:
- Review the conditions of the workplace and job-sites.

- Develop an effective plan to address the abatement of hazards.
- Provide on-going safety training to workers, supervisors, safety committee members and management.
- Maintain all records and documents associated with the safety program and generate all required reports.
- Conduct accident and incident investigations and provide corresponding reports.
- Maintain an effective system of communication between workers, supervisors and management relevant to the safety program and abatement of hazards.
- Communicate company policies and procedures with other contractors, subcontractors and hosts and ensure that all work is performed in a safe and compliant manner.
- Conduct a periodic review of the safety program as a whole and make revisions as needed to address changing regulations or conditions.

### **Management**

Management will:

- Provide the time, resources and authority needed to develop and execute the safety program.
- Monitor the progress of the safety program and take action to ensure its success. This will include the review of incident reports, accident reports, policies, procedures and written communication.
- Lead by example and follow the same policies, procedures and rules established for the workers.

### **Supervisors**

Supervisors will:

- Ensure a "competent person" is available as needed for each work area (jobsite). Competent persons

# ADMINISTRATIVE PROCEDURES

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will have the knowledge to recognize hazards and the authority to take appropriate action.

- Evaluate their assigned work areas. They will identify hazards and take action to abate the hazards in accordance with federal, state, and local regulations as well as the policies, procedures and rules established by this company.
- Inspect and monitor their assigned work areas. They will ensure that all work is performed safely and in accordance with federal, state, and local regulations as well as the policies, procedures and rules established by the company.
- Enforce the policies, procedures and rules established in the safety program in accordance with the company disciplinary policy.
- Assist in the on-going training of workers by conducting periodic safety talks and activities. They will also bring any problems or concerns of the workers to the attention of management, the Safety Director and/or the Safety Committee.
- If requested, will serve on the Safety Committee and complete assigned tasks needed to execute the safety program.

## Employees

All employees are:

- Required to work safely in accordance with state, federal and local regulations as well as the rules established by this company. This will include, but is not limited to, OSH Act 5(b) “Each employee shall comply with occupational safety and health standards and all rules, regulations, and orders issued pursuant to this Act which are applicable to his own actions and conduct.”
- Required to notify their supervisor immediately of any unsafe acts or conditions they observe.
- Encouraged to take an active role in the safety program and make recommendations to improve any and all parts of the program.

## **C. SAFETY RULES**

---

All company safety policies and procedures must be followed.

Anyone known to be under the influence of alcohol and/or drugs shall not be allowed on company property. Persons with symptoms of alcohol and/or drug abuse are encouraged to discuss personal or work-related problems with the supervisor/or employer.

No one knowingly shall be permitted or required to work while his or her ability or alertness is impaired by fatigue, illness or other causes that might expose the individual or others to injury.

Horseplay, scuffling and other acts which tend to endanger the safety or well being of employees are prohibited. Fighting or instigating fights will not be tolerated.

All injuries shall be reported promptly to the supervisor/employer so that arrangements can be made for medical and/or first aid treatment.

Work shall be well planned and supervised to prevent injuries when working with equipment and handling heavy materials. When lifting heavy objects; employees should bend their knees and use the muscles of the legs instead of the smaller muscles of the back.

Employees should check to see that all guards and other protective devices are in place, and properly adjusted, and shall report deficiencies to management.

Employees shall not handle or tamper with any electrical equipment, machinery or air or water lines in a manner not within the scope of their duties unless they have received instructions from their supervisor/or employer. Only trained and authorized employees shall operate machinery, equipment, tools or company vehicles.

## ADMINISTRATIVE PROCEDURES

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All tools and equipment must be inspected before and after each use. NEVER use damaged equipment. Destroy or tag defective tools and equipment out of service.

Observe all warning signs and tags. Ask your supervisor if you are not sure what they mean.

All power tools and sources of ignition that may be present shall be turned off or disconnected before working with solvent materials with a low flashpoint. Smoking is only allowed in designated areas.

Machinery shall not be repaired or adjusted while energized or in operation. All adjustments and repairs must be done in accordance with the Hazardous Energy Control Plan.

Employees shall cleanse thoroughly after handling hazardous substances, and follow special instructions from authorized sources.

Sturdy work shoes, preferably high top leather with nonskid soles, are recommended. Inappropriate footwear shall not be worn. Insulated shoes should be worn as needed. Only clothing that will not contribute to injury from electric arcing and burns shall be worn. Flame Resistant (FR) clothing may be needed per our Electrical Safety Program. Pants shall be long-legged. Hats and gloves must be worn when necessary. Loose or frayed clothing, dangling ties, finger rings, etc. must NOT be worn around moving machinery or other places where they can get caught.

Approved protective equipment shall be worn in specified work areas and in the execution of tasks that require their use.

In addition to the rules established here, employees are expected to follow all safety policies, procedures and instructions provided in training.

### **D. ACCIDENTS/INCIDENTS**

---

Each company employee has the responsibility to immediately report all work-related accidents, incidents (near miss accidents) or illnesses to his/her supervisor.

Unsafe acts and conditions observed by any employee should immediately be brought to the attention of the supervisor.

Supervisory personnel are required to document all accidents, incidents, illnesses, unsafe acts and unsafe conditions reported by employees and submit a report to the Safety Director as soon as possible.

Supervisory personnel are required to immediately take the appropriate corrective action that will ensure the prevention of future accidents and/or incidents.

The Safety Director will ensure that a thorough investigation of the incident/accident is made and that additional corrective action, if required is taken.

In the case of a fatality or hospitalization of three or more employees the Safety Director will be notified as soon as possible. The Safety Director will notify the local OSHA Office or contact 1-800-321-OSHA to report the accident within 8 hours of receiving notice of it.

### **E. RECORDS**

---

The Safety Director will ensure that all records and documents related to the safety program are properly maintained. This will include safety data sheets, accident/incident reports, and the OSHA Log and Summary.

The Safety Director will ensure accidents are entered in the OSHA log within 6 days of knowledge of the accident.

# ADMINISTRATIVE PROCEDURES

Medical records, if required will be kept with the physician administering the service.

Requests for documents and records should be submitted to the Safety Director.

## **F. COMMUNICATION AND TRAINING**

No employee will be allowed to perform a job or task unless they have received training on the hazards present and the precautions necessary to perform the job safely. The Safety Director will ensure the following training is provided:

### **Orientation Training**

Each new and newly assigned worker will participate in a safety orientation training session. Participants will be instructed in all elements of the company safety program and will complete all safety training required by federal and local agencies.

### **Refresher Training**

On-going safety training will be a primary component of the company safety program. This training may take the form of classroom or on-the-job instruction. The Safety Director and Safety Committee will establish a training agenda. This agenda will include all refresher training required by federal, state and local agencies.

The training agenda will also be based on a recent hazard analysis and review of accident/incident reports.

### **Hazard Specific Training**

Before beginning a new job a review of the hazards will be conducted by the supervisor. Training will be provided for any new hazards introduced to the workers. This may include the introduction of new substances, equipment, tool, processes or procedures.

### **Job Briefings**

Job site supervisors will conduct a job briefing at the beginning of each shift. Briefings will be performed per the company protocols and the briefings checklist used. The job briefing will identify job assignments, procedures to be followed and the actions that will be taken to protect workers in the performance of their assigned tasks. Additional briefings will be conducted as tasks, assignments or conditions warrant.

### **Safety Talks/Meetings**

The Safety Director will ensure that periodic safety talks, activities and meetings are conducted by supervisors on the job. They will provide refresher training to workers and introduce new policies, procedures and hazard controls to be applied. The meetings will also serve as a means for workers to bring safety concerns to the attention of management.

### **Management/Supervisor/Safety Committee Training**

Special training will be provided to management, supervisors and safety committee members. This training will address the requirements of OSHA regulations and best safety practices used in our industry. Training will be provided on an on-going basis so that our safety program is kept current and effective.

## **G. SAFETY EVALUATIONS & INSPECTIONS**

Each employee will perform a safety check of the work area at the beginning of the shift. They will also check equipment, tools and personal protective equipment before each use.

The supervisor will evaluate their assigned work area for hazards and ensure that a plan is established to abate hazards. They will ensure that hazards are abated in accordance with federal, state, and local regulations as well as the policies, procedures and rules established by the company.

# ADMINISTRATIVE PROCEDURES

---

Supervisors will inspect the work area, equipment, tools and protective equipment at the beginning of each shift. Supervisors will continue to monitor activity throughout the shift so that incidents/accidents are prevented.

The Safety Director, Safety Committee or an assigned representative will perform periodic inspections. A report of the inspections will be generated and action taken to improve the safety and health of workers.

## ***H. MULTI-EMPLOYER WORKSITE POLICY***

---

The Safety Director will ensure that all safety procedures are reviewed with the Host Employer, General Contractor and Affected Contractors before a job begins. Specific written policies and procedures will be shared. This review will include materials safety data sheets, labeling, emergency action plans, and the interpretation of signs and tags. All relevant information will be communicated to supervisors and workers.

## ***I. VISITORS***

---

No visitors will be allowed on company property or jobsites unless they have received permission from a designated company representative and completed all necessary paperwork.

Visitors entering will be escorted by designated personnel and receive a briefing on appropriate safety pre-cautions to be observed. Required personal protective equipment, (PPE) will be provided as needed.

## ***J. DISCIPLINARY POLICY***

---

This company strives to create a safe and healthy workplace for all employees. To achieve this objective will require the cooperation of everyone. Supervisors must enforce all company safety policies and procedures.

In the event that any employee deliberately fails to follow the prescribed safe work procedure or deliberately fails to use the prescribed safety equipment disciplinary action may be initiated and these actions will be documented.

Incidents that involve imminent danger or in the opinion of the supervisor show a complete disregard for safety shall be immediately referred to management for appropriate action.

## ***K. SAFETY COMMITTEE***

---

This organization has established a joint employee management safety committee to protect the safety and health of its employees.

### **Role of the Safety Committee**

The Safety Committee will:

- Perform an ongoing evaluation of the safety program.
- Review the conditions of the workplace and assist in developing plans to address the hazards and comply with OSHA regulations.
- Review all documents, records and reports associated with the safety program and recommend actions to improve performance and compliance with OSHA regulations.
- Review all communication between workers, supervisors and management relevant to the safety program and recommend actions to be taken.

## ADMINISTRATIVE PROCEDURES

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- Accept and complete assigned tasks needed to execute the safety program.

### **Organization of the Safety Committee**

The Safety Committee will be comprised of supervisors and selected workers who have taken an interest in safety. The Safety Director shall serve as a representative of management and act as Chairman of the Safety Committee.

### **Safety Committee Procedures**

The safety committee will meet once a month. The Chairman will establish an agenda to be followed.

The Chairman will ensure that minutes of each meeting are taken. The Chairman will review the results of the meeting with management and take appropriate actions.

A report of the meeting will be posted or communicated to employees at monthly safety talks.

# BLOODBORNE PATHOGENS EXPOSURE CONTROL PROGRAM

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## A. PURPOSE AND SCOPE

---

The goal of the following Exposure Control Plan (ECP) is to eliminate or minimize occupational exposures to Bloodborne pathogens.

The basis of this Plan is the OSHA Bloodborne Pathogens Standard, 29 CFR 1910.1030. Although this is a General Industry standard, it can be applied to construction activities where exposure may occur, such as protection for first-aid responders. As required by OSHA in 1926.50 Medical services and first aid and consistent with the direction in NFPA 70E Standard for Electrical Safety in the Workplace, first-aid responders will be available on all company jobsites. This program will therefore provide protection for these individuals against bloodborne pathogens.

## B. EMPLOYEE EXPOSURE DETERMINATION

---

Occupational exposure to blood and bodily fluids is limited to our designated first-aid responders or employees engaged in special duties where that potential may exist. However, any employee who has been exposed to blood or bodily fluids should immediately report it to their supervisor to determine the appropriate action regarding possible exposure to bloodborne pathogens.

Our facility has decided to: (*check appropriate line*)

Offer hepatitis B vaccination to the first-aid provider after an exposure has occurred.

Offer pre-exposure vaccination.

## C. RESPONSIBILITIES

---

### Safety Director

The Safety Director will:

- Provide a copy of the Plan to employees free of charge and within 15 days of the request
- Maintain reports of any exposure incident. The report will include the first-aid responder's name, the date, time and description of the exposure incident.
- Train first-aid providers on the Bloodborne Pathogen requirements including the specifics required for reporting procedures.
- Ensure that any first-aid responder requesting the Hepatitis B vaccine series after an exposure incident receives it as soon as possible, but no later than 24 hours after the incident.
- Provide training, review and update the Exposure Control Plan, (ECP) annually, or as needed, to include any new or modified tasks and procedures that affect occupational exposure. The update will include any new or revised employee positions with occupational exposure.

### First-Aid Responders

First-Aid Responders will:

- Be trained on the Bloodborne Pathogen requirements by or under the direction of the Safety Director.
- Report all first aid incidents where blood or potentially infectious materials are present to the Safety Director before the end of the work shift.
- Use appropriate Personal Protective Equipment (PPE) when attending to an exposure incident.

### Health Care Provider

The Health Care Provider (HCP) will:

- Conduct post exposure examinations and administer vaccinations as needed.

# BLOODBORNE PATHOGENS EXPOSURE CONTROL PROGRAM

---

## **Employees**

All employees will:

- Abide by all engineering controls and safe work practices in place to minimize potential exposure. This includes, but is not limited to, hand washing and use of the appropriate PPE.

## **D. ENGINEERING CONTROLS AND WORK PRACTICES**

---

Engineering controls and work practice controls will be used to prevent or minimize exposure. Hand washing facilities are available at all jobsites. Employees will wash with anti-bacterial cleansers and use appropriate disinfectant means after administering first-aid and follow all standard precautions. All equipment will be decontaminated or discarded in appropriate containers.

## **E. PERSONAL PROTECTIVE EQUIPMENT**

---

First-aid responders will use PPE appropriate for administering the first-aid required. All jobsite first-aid kits will contain:

- Gloves
- Eye protection
- Resuscitation bags and mouthpieces
- Face shield or masks

## **F. HOUSEKEEPING**

---

In the event of a first-aid incident or other exposure covered by this Plan, the first-aid responders exposed will take precautions to decontaminate work surfaces, tools and equipment. PPE will be used during cleanup.

Mechanical means such as tongs, forceps or a brush and a dust pan will be used to pick up contaminated

broken glassware. The waste will be treated as regulated waste and disposed of in sealed and labeled or color-coded containers. When storing, handling, transporting or shipping regulated waste, it will be in containers that are constructed to prevent leakage. The waste will be discarded according to federal, state and local regulations.

In the event of a first-aid incident in which the first-aid responder's clothes become contaminated, the following actions will be taken:

- Contaminated laundry will be handled as little as possible and with a minimum of agitation. Appropriate PPE will be worn when handling contaminated laundry.
- Contaminated laundry will be placed in color-coded bags at its location of use and taken by a commercial launderer. The launderer will be given the appropriate warnings.

## **Labeling**

Biohazard warning labels will be placed on all containers for wastes which may be contaminated with blood or body fluids, or red bags will be used as required.

## **G. TRAINING**

---

All designated first-aid responders or other employees covered by this Plan will receive training conducted by or under the direction of the Safety Director. The training program will cover, at a minimum, the following elements:

- A copy and explanation of the standard
- Causes, control and symptoms of Bloodborne pathogens
- Modes of transmission of Bloodborne pathogens

# BLOODBORNE PATHOGENS EXPOSURE CONTROL PROGRAM

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- The Exposure Control Plan, (ECP) and a way to obtain a copy
- Methods to recognize tasks that risk exposure and other activities that may involve exposure to blood
- Use and limitations of Engineering Controls, Work Practices and PPE
- PPE types, use, location, removal, handling, decontamination, disposal and basis for selection
- Availability procedures for the Hepatitis B Vaccine and the availability at no cost. (Training will be given prior to vaccination on its safety, effectiveness, benefits, and method of administration.)
- Emergency procedures for blood and other potentially infectious materials
- Exposure incident procedures
- Post-exposure evaluation and follow-up
- Signs, labels and/or color coding
- Question and answer session
- If the source employee is known to be infected, testing need not be repeated.
- Providing the exposed employee with the source individual's test results and information about applicable disclosure laws and regulations concerning the source individual's identity and infectious status.
- Obtaining consent from the exposed employee, collecting blood as soon as is feasible after the exposure incident and test blood for HBV and HIV serological status.
- If the employee does not give consent for HIV serological testing during the collection of blood for baseline testing, the baseline blood sample will be preserved for at least 90 days.
- Counseling on post exposure protocols to include precautionary measures to prevent further transmission of any bloodborne pathogen and support from the Employee Assistance Program (EAP)

## **H. POST EXPOSURE EVALUATION AND FOLLOW-UP**

---

The Safety Director is to be contacted immediately following an exposure incident. A confidential medical evaluation and follow-up will be conducted by \_\_\_\_\_.

The follow-up will include:

- Documentation of the routes of exposure and how exposure occurred.
- Identification and documentation of the source employee, unless infeasible or prohibited by State or local law.
- Obtaining consent from the source employee and testing the blood, documenting these blood test results.

The circumstances of exposure incidents will be reviewed to determine if procedures, protocols and/or training need to be revised.

## **I. HEALTHCARE PROFESSIONALS**

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Healthcare professionals (HCPs) responsible for employee's HB vaccination, post-exposure evaluation and follow-up will be given a copy of the OSHA Bloodborne Standard. The healthcare professional evaluating an employee after an exposure incident will also receive:

- A description of the exposed employee's job duties relevant to the exposure incident
- Routes and circumstances of exposure
- Results of the source employee's blood test, if available
- Relevant employee medical records, including vaccination status.

# BLOODBORNE PATHOGENS EXPOSURE CONTROL PROGRAM

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## **J. HEALTHCARE PROFESSIONAL'S WRITTEN OPINION**

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The designated Healthcare Professional will provide the exposed employee with a copy of the evaluating Healthcare Professional's written opinion within 15 days after completion of the evaluation.

The written opinion for post-exposure evaluation and follow-up will be limited to whether or not the exposed employee has been informed of the results of the medical evaluation and any medical conditions which may require further evaluation and treatment. For HB vaccinations, the opinion will be limited to whether the employee required or received the vaccine. All other diagnoses must remain confidential and not be included in the written report to the employer.

## **K. RECORDKEEPING**

---

### **Medical Records**

Medical records are maintained for each employee with exposure in accordance with 29 CFR 1926.33 or 1910.20. In addition to the requirements of this standard, the medical records will include:

- The name and social security number of the exposed employee
- A copy of the exposed employee's Hepatitis B vaccination records and any medical records relative to the employee's ability to receive vaccinations
- A copy of all results of examinations, medical testing, and follow-up procedures as required
- A copy of all HCP's written opinion(s) as required by the standard

Employee medical records will be kept confidential and will not be disclosed or reported without the employee's express written consent

Employee medical records shall be maintained for at least the duration of employment plus 30 yrs.

Employee medical records shall be provided (within 15 working days) upon request of the employee or to anyone having written consent of the employee.

### **Training Records**

Bloodborne pathogen training records will be maintained by the Safety Director at a designated location.

### **Transfer of Records**

If the company ceases to do business and there is not a successive employer, the employer shall notify the Director of the National Institute for Occupational Safety and Health (NIOSH) at least 3 months prior to a scheduled records disposal, and prepare to transmit them to the Director of NIOSH.

## **L. CREDENTIAL INFORMATION**

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Designated First-Aid Providers:

Medical Evaluations Performed By:

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Designated Health Care Professional:

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Employee Assistance Program Manager:

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# CONFINED SPACE ENTRY PROGRAM

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## **A. PURPOSE AND SCOPE**

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It is the policy of the company that the first consideration in the performance of work shall be the protection of the safety and health of all employees. The company has developed this Confined Space Entry Program to ensure that all employees receive adequate training and information relevant to the possible hazards that may be involved when entering and working in enclosed or confined spaces. The following program outlines how we will accomplish this objective.

## **B. RESPONSIBILITIES**

---

### **Safety Director**

The Safety Director will:

- Monitor this Confined Space program. Questions regarding this program and any information associated with it should be directed to the Safety Director.

### **Employees**

Affected employees will:

- Follow all safety procedures described in this program. All questions should be referred to the Safety Director or Supervisor.

## **C. DEFINITIONS**

---

### **1. Confined Space:**

A working space meeting **all** of the criteria listed below:

- Large enough for someone to enter and work
- Limited or restricted means for entry or exit
- Not designed for continuous occupancy

Examples of possible confined spaces: tanks, transformers, circuit breakers, ventilation or exhaust ducts, tunnels, and pipelines.

### **2. Enclosed Space:**

A working space meeting **all** of the criteria listed below:

- Large enough for someone to enter and work
- Limited or restricted means for entry or exit
- Is designed for periodic employee entry under normal operating conditions.

Note: This space under normal conditions does not contain a hazardous atmosphere, but may under abnormal conditions.

Examples of enclosed spaces are: a manhole, vault, switching cubicle, tunnel, or shaft.

### **3. Hazardous Atmosphere:**

An environment that may expose employees to the risk of death, incapacitation, impairment of ability to self-rescue (that is, escape unaided from an enclosed space), injury, or acute illness from one or more of the following causes:

- Atmospheric oxygen concentration below 19.5% or above 23.5%
- Flammable gas, vapor, or mist in excess of 10% of its lower flammable limit
- Any other atmospheric condition that is immediately dangerous to life or health.

### **4. Permit-Required Confined Space:**

- A **confined space** that has one or more of the following characteristics:
- Contains or has the potential to contain a hazardous atmosphere
- Contains material which has the potential for engulfing an entrant
- Has an internal configuration where an entrant may become entrapped or asphyxiated by inwardly

# CONFINED SPACE ENTRY PROGRAM

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converging walls or by a floor sloping downward and tapering to a smaller cross-section

- Contains any other recognized serious safety or health hazard (i.e., a safety hazard that exposes entrants to the risk of death, incapacitation, impairment of ability to self-rescue, injury.)

## **5. Vented Vault:**

A vault that has provisions for air changes using exhaust stacks and low level air intakes operating at differentials of pressure and temperature providing for air flow which precludes the development of a hazardous atmosphere.

## **D. HAZARD DETERMINATION**

This company does not intend to perform the initial evaluation of any confined space. It has chosen to rely upon the evaluation performed by the host employer or its designee to satisfy the requirements for safe entry into the confined space. The Company's employees are not trained to enter and/or work in confined spaces that require the use of a "full permit" for entry. Our employees are trained to work in enclosed spaces or confined spaces that utilize "Alternative Procedures" for entry and work, or one that does not require a permit (i.e. a Non Permit Required confined space.) As these spaces will be treated in the same manner to ensure safe entry the terms confined space and enclosed spaces will be used interchangeably in this program.

The entering of any confined space can be very hazardous unless proper safety precautions are taken. For example, a person might work in a small area under several adverse conditions, such as poor lighting, slippery work surfaces, excessive noise levels, toxic and flammable gases, and oxygen deficient atmosphere.

Proper safety precautions shall be taken to ensure these conditions are controlled such that employees who are required to work in confined spaces are provided a safe and healthful work environment.

## **E. CONFINED SPACE ENTRY: NON-PERMIT**

Confined spaces may be classified as non-permit spaces if all atmospheric and/or other safety hazards are eliminated. A reclassification worksheet will be used to ensure that steps are taken to identify that the hazards have been removed.

When changes occur within or to a non-permit space that may create an atmospheric hazard the following actions will be taken:

1. Evacuate the space immediately.
2. Evaluate how the hazardous atmosphere developed.
3. Eliminate condition(s) that created the problem, if possible.
4. Reentry using "alternate procedures" may be necessary.

## **F. CONFINED SPACE ENTRY: ALTERNATIVE PROCEDURES**

1. Confined spaces that have been reclassified as non-permit spaces by removal of potentially hazardous atmospheres through the use of ventilation can be entered in the same manner as an enclosed space.
2. Safe work practices must be used during entry into and work within confined spaces, and for rescue of workers from such spaces. Be sure that employees are trained in safety-related work practices and procedures, and other safety requirements related to job assignments (e.g., general safety and welding, cutting, and electrical work safety requirements.)
3. Employees who enter confined spaces must be trained in the following:

# CONFINED SPACE ENTRY PROGRAM

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- Hazards of confined space entry
- Confined space entry procedures
- Confined space rescue procedures.

4. Appropriate rescue equipment must be available to ensure the prompt and safe rescue of employees from the confined space.

5. Before removing the entrance cover to any confined space, identify and remove all hazards:

- Check for the presence of atmospheric pressure or temperature differences
- Evaluate the possibility of a hazardous atmosphere; e.g., oxygen deficiency, flammable gases, Carbon Monoxide (CO), or Hydrogen Sulfide (H<sub>2</sub>S) in the space by checking for expected conditions within the space

6. As mentioned above, employees are prohibited from entering any “permit required” confined space because they have not been trained to do so.

7. Test instruments used to monitor atmospheres in a confined space must be kept in calibration according to manufacturer’s recommendations.

8. Before an employee enters a confined space, the internal atmosphere must be tested from outside the space for oxygen deficiency (and flammable gases and vapors, as appropriate) with a direct-reading meter or similar instrument capable of collection and immediate analysis of data samples without the need for off-site evaluation.

Notes:

- If oxygen levels are below “normal” the flammability test will not be accurate.
- If it is not anticipated that a “hazardous atmosphere” could develop, the atmosphere within the

confined space must be periodically or continuously monitored (e.g., area monitors, personal monitors, etc.), to ensure that the accumulation of a hazardous atmosphere does not occur.

- If it is reasonably anticipated that a “hazardous atmosphere” could develop, continuous forced-air ventilation shall be used, and the atmosphere within the confined space shall be continuously monitored (e.g., area monitors, personal monitors, etc.), to ensure that the continuous forced-air ventilation is preventing the accumulation of a hazardous atmosphere.
- Be sure a hazardous atmosphere (Immediate Danger to Life and Health or IDLH) does not exist within the confined space when an individual is inside.

9. When it has been determined that the space is safe for entry, a written certification will be made available to each employee entering the confined space. The “Confined Space Checklist” at the end of this program can be used for this purpose.

10. If a hazardous atmosphere is detected upon entry or while working the following actions will be taken:

- Evaluate the confined space entry immediately
- Evaluate how the hazardous atmosphere developed
- Take actions to ensure the hazardous atmosphere is controlled or perform pre-entry testing just prior to re-entry to ensure the atmosphere is safe for re-entry.

11. If flammable gases or vapors are detected, or an oxygen deficiency is found, forced air ventilation will be used to maintain oxygen at a safe level and to prevent a hazardous concentration of gases or vapors from accumulating. It is permissible to use a continuous monitoring program in place of ventilation to ensure

## CONFINED SPACE ENTRY PROGRAM

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that there is no increase in flammable gas or vapors, once safe levels of these substances have been detected.

12. If continuous forced air ventilation is used, it will begin before any entry occurs into the confined space or enclosed space, and must be maintained until a safe atmosphere is confirmed, before employees are allowed to enter the work area. The ventilation will be directed so that it ventilates the immediate area where employees are present within the confined space. Forced ventilation will continue until all employees have left the space unless continuous monitoring is used.

13. The air supply for continuous forced ventilation must be from a clean source, and must not increase the hazards in the confined space. If open flames are used in the confined space, perform a test for flammable gases and vapors **immediately before** the open flame device is used and at least once per hour while the device is in use. Conduct testing more often if conditions within the confined space indicate that once per hour is insufficient to detect hazardous accumulations of flammable gases or vapors.

# CONFINED SPACE ENTRY PROGRAM

## **CONFINED SPACE ENTRY: CHECK- LIST**

## LOCATION:

## TYPE OF WORK:

(1) <u>ATMOSPHERIC TEST</u>	<u>ACCEPTANCE LIMITS</u>
OXYGEN _____ % 23.5%	BETWEEN: 19.5% -
COMBUSTIBLES: _____	LEL: LESS THAN 10%
CARBON MONOXIDE	UNDER 35 PPM
HYDROGEN SULFIDE	UNDER 10 PPM

YES

NO

- (2) VENTILATING SPACE \_\_\_\_\_

(3) GUARD RAIL AROUND OPENING \_\_\_\_\_

(4) ATMOSPHERE MONITORED  
INITIAL (must be done) \_\_\_\_\_  
CONTINUOUS \_\_\_\_\_ PERIODIC \_\_\_\_\_

(5) DOES THIS JOB REQUIRE AN OPEN FLAME? \_\_\_\_\_

(6) LIST ANY SPECIAL EQUIPMENT THAT IS REQUIRED FOR THIS JOB:

(7) DESCRIBE ANY SPECIAL PRECAUTIONS THAT MUST BE FOLLOWED DURING THIS ENTRY:

Check-list is completed and safe for entry. SIGN:

# ELECTRICAL SAFETY PROGRAM

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## 4.0 ELECTRICAL SAFETY

### A. PURPOSE AND SCOPE

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A universal safety concept is to control all forms of hazardous energy. This applies to all forms of energy including, mechanical, pneumatic, hydraulic and electric. This Electrical Safety Program will focus on safely working with electrical hazardous energy.

This company normally does work covered by OSHA's 29 CFR 1910.147, Subpart S Electrical of the General Industry Standards & Subpart K Electrical of the Construction Industry Standards and the National Electrical Code (NEC). In some instances work is done that is covered by OSHA's 29 CFR 1910.269 & 1926 Subpart V and the National Electrical Safety Code (NESC). It also recognizes that NFPA 70E the Standard for Electrical Safety in the Workplace offers guidance on certain electrical safety procedures.

### OSHA and the NFPA 70E:

OSHA requirements are not recommendations. There are a number of OSHA requirements that address the hazards of working on or near exposed energized parts for construction and maintenance work. These requirements are often written in performance language, requiring compliance without necessarily stating how to comply.

The NFPA 70E, Standard for Electrical Safety in the Workplace, is written in prescriptive language and is an important national consensus standard that defines the requirements for an overall electrical safety program.

As such, the procedures found within this policy are taken directly from the NFPA 70E - Electrical Safety in the Workplace and will cover the majority of the work locations and tasks our electricians and contractors face. It is NOT all encompassing.

Certain tasks performed on very high hazard electrical systems and equipment, those with high level available fault currents and / or long fault clearing times, or exposures exceeding 600 volts, will require the direct use of the current edition of the NFPA 70E standard to determine proper PPE and safe work practices and procedures.

### B. RESPONSIBILITIES

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#### General Contractor/Host

The General Contractor/Host will:

- Review the letter provided by our company on Customer or General Contractor electrical related hazards and responsibilities.
- Inform our Safety Director of known hazards associated with electrical installation, maintenance or repair that is related to the work our company will be performing and might not be recognized by our employees
- Inform our Safety Director about the installation that the contract employer needs to make the assessments
- Report any safety violations by our employees that are observed to our Safety Director

#### Safety Director

The Safety Director will:

- Monitor this Electrical Safety Program. Questions regarding this program and any information associated with it should be directed to the Safety Director.
- Ensure that all employees are properly trained for the tasks they will perform. Only persons specifically approved by the Safety Director may install, modify, repair, or work on electrical conductors and equipment.

# ELECTRICAL SAFETY PROGRAM

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- Participate in the approval of all energized work and preparation of the Energized Electrical Work Permit required for work to begin.
- With the assistance of the supervisor and/or their designees, perform periodic assessments of employees to ensure their abilities are appropriate for the tasks performed.
- Perform an audit annual of the electrical safety principles identified in this program.

## Supervisors

Supervisors will:

- Ensure that safe work methods and procedures are being utilized.
- Ensure that the right tools are available and used for the jobs performed.
- Ensure required inspections, testing and maintenance are performed. Where tools or equipment are found to be defective, they shall be tagged, removed from service, and reported to Safety Director as soon as possible.

## Employees

All employees:

- Must continuously remain alert to his or her surroundings and the work activities being performed.
- Will follow all safety procedures described in this program.
- Will perform inspections on all equipment and tools before each use. Where tools or equipment are found to be defective, they shall be tagged, removed from service, and reported to supervision as soon as possible.
- Shall report any conditions or activities which pose a risk to themselves or others. Remember, when you see that a safety rule is being violated, that silence is consent!

- Will refer all questions to the Safety Director or Supervisor

## **C. ELECTRICAL SAFETY PRINCIPLES AND CONTROLS**

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The following basic principles are the foundation upon which this electrical safety program has been established. All company employees including management, the Safety Director, Supervisors and employees shall apply these principles to the all tasks.

- The inspection and evaluation of electrical equipment shall be part of all procedures.
- All electrical conductors and circuit parts shall be considered energized until tested and placed in an electrically safe working condition.
- The integrity of equipment enclosures and insulation shall be maintained unless exposure is absolutely necessary and actions have been taken to provide the appropriate protection (e.g. work cannot be performed with the enclosure in place and equipment and conductors have been placed in an electrically safe work condition or an Energized Electrical Work Permit has been completed in accordance with this program.)
- Work will not begin on a job unless a written plan is in place identifying the procedures to be used. Jobs which have not been performed and for which no plan exists will require the development of a new plan.
- The primary method for ensuring safety shall be to de-energize (create an electrically safe work condition) in accordance with the company Lockout/ Tagout (LOTO) program.
- Work that must be performed energized shall be justified as follows and requires completion and approval of an Energized Electrical Work Permit.

# ELECTRICAL SAFETY PROGRAM

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- Energized work shall only be justified when it can be demonstrated that de-energizing introduces additional or increased hazards or is infeasible due to equipment design or operational limitations. Energized parts that operate at less than 50 volts to ground shall not be required to be de-energized if there will be no increased exposure to electrical burns or to explosion due to electric arcs.

- *Examples of increased or additional hazards include, but are not limited to, interruption of life support equipment, deactivation of emergency alarm systems, and shutdown of hazardous location ventilation equipment.*
- *Examples of work that might be performed on or near exposed energized electrical conductors or circuit parts because of infeasibility due to equipment design or operational limitations include performing diagnostics and testing (e.g., start-up or troubleshooting) of electric circuits that can only be performed with the circuit energized and work on circuits that form an integral part of a continuous process that would otherwise need to be completely shut down in order to permit work on one circuit or piece of equipment.*

- In preparing for a job, an effort will be made to anticipate unexpected events through a hazard/risk evaluation, completion of a planning checklist, and job briefing.
- Based on the hazard/risk evaluation, actions will be taken to minimize or eliminate hazards and protect employees from shock, burn, blast, and other hazards due to the working environment.
- Employees shall not knowingly be permitted to work on electrical circuits, parts or equipment:
  - When their alertness is recognizably impaired due to illness, fatigue, or other reasons.

- Where obstructions or the lack of illumination prevent a clear view of the work to be performed.

## **D. EMPLOYEE INFORMATION AND TRAINING**

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All employees are trained in and familiar with:

- Safety related work practices
- Safety related work procedures
- Safety related protective equipment
- Safety related personal protective equipment.

Qualified employees are knowledgeable, trained and have demonstrated proficiency in:

- Skills and techniques necessary to distinguish exposed live parts from other parts
- Skills and techniques to determine nominal voltage of exposed live parts
- Minimum approach distances corresponding to those that the employee may be exposed,
- The proper use of special precautionary techniques, personal protective equipment (PPE), insulating and shielding materials, and insulated tools as required to perform the assigned work.

Refresher training will be conducted prior to performing those tasks which have not been performed within the past year, or when observation of the employee's work performance demonstrates the need for refresher training.

A Job Briefing shall be conducted as described in the Administrative section of this manual.

# ELECTRICAL SAFETY PROGRAM

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## 4.1 LOCKOUT/TAGOUT (LOTO) PROGRAM

### A. PURPOSE AND SCOPE

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This procedure shall be used to prevent employee exposure to hazardous electrical energy. It establishes the minimum requirements for lockout (tagout) of electrical energy sources. It provides procedures for ensuring conductors and circuit parts are disconnected from electrical energy sources and that stored energy sources are controlled. Control includes release of the stored energy as well as the prevention of re-accumulation of energy.

An individual employee control procedure will be used and no lockout tagout will be required under the following circumstances:

- Equipment with exposed conductors and circuit parts are de-energized for minor maintenance, servicing, adjusting, cleaning, inspection, or similar operation
- Disconnecting means are adjacent to the conductor, circuit parts, and equipment, on which the work is performed,
- The disconnecting means is clearly visible to all employees involved in the work,
- The work does not extend beyond the work shift.

However, all steps in Section C shall be completed to ensure individual employee control is appropriate and all energy sources are identified and controlled.

### B. TRAINING AND RESPONSIBILITIES

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All employees shall receive training as prescribed in Section B(2) of this program. All new or transferred employees and all other persons whose work operations are or might be in the area shall be instructed in the purpose and use of this procedure.

A list of these employees (or job titles of employees with responsibility) is attached here. Where needed a separate list will be included in the procedures for a given operation where LOTO is used. All persons installing a LOTO device shall sign their names and the date on the tag. For a complex LOTO the name of the individual or person in charge will be identified in the plan along with procedures for maintaining contact with that individual.

#### Training

All employees engaged in LOTO shall receive the following training:

- The importance of LOTO and its impact on safety
- The purpose and procedures set forth in this program as well as any individual LOTO plans developed for a specific operation
- Recognizing LOTO devices
- Installing LOTO devices
- Duty of employer in writing procedures
- Duty of employee in executing procedures
- Duty of person-in-charge
- Authorized and unauthorized removal of locks/tags
- Enforcing execution of LOTO procedures
- Individual employee control of energy
- Simple LOTO
- Complex LOTO
- Using single line and diagrammatic drawings to identify sources of energy
- Use of tags and warning signs
- Release of stored energy
- Personnel accounting methods
- Grounding needs/requirements

# ELECTRICAL SAFETY PROGRAM

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- Safe use of voltage detecting instruments
- Additional training as needed to address specific hazards associated with a given operation

## C. PREPARATION FOR LOCKOUT (TAGOUT)

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All disconnecting means shall be identified and located to ensure that energy is interrupted by a physical break and not de-energized by a circuit interlock. This shall be accomplished by reviewing current diagrammatic drawings or other means, tags, labels, and signs. A list of disconnecting means to be locked (tagged) will be developed and attached to the plan for each LOTO operation.

Each disconnecting means shall be evaluated to determine adequacy of their interrupting ability. Based on the evaluation, it will be determined if verification of a visible open point is possible, or if other precautions are needed.

Work activity where any personnel might be exposed to sources of electrical energy hazards will be identified. It will be determined if there are any other energy sources in the area where employees may be exposed to other types of energy. Energy control methods will be established for all hazardous energy sources.

A voltage detector rated for voltage to which employees may be exposed will be selected for the operation. A procedure will be established for each operation to determine that the voltage detector is operating properly.

The possibility of induced voltages or stored electrical energy will be identified. Grounds will be applied as needed before touching conductors or circuit parts.

## D. LOCKOUT (TAGOUT) STEPS

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The following identifies the basic steps for LOTO. In addition to these steps, it shall be determined whether a Simple or Complex LOTO can be performed. The Complex LOTO plan shall address any additional steps required. A Complex LOTO will be performed when any of the following exist:

- Multiple energy sources (more than one)
- Multiple crews
- Multiple crafts
- Multiple locations
- Multiple employers
- Unique disconnecting means
- Complex or particular switching sequences
- Continues for more than one shift, that is, new workers

1. Notify employees a lockout (tagout) is going to be implemented and the reason. A qualified employee knowledgeable of hazards associated with electrical energy shall implement the lockout (tagout). He/She shall know the location of disconnecting means for all sources of electrical energy and stored energy.

2. The qualified person shall de-energize and disconnect the electric supply and relieve all stored energy.

3. All disconnecting means will be locked/ tagged out with lockout (tagout) devices. Refer to Section H for appropriate devices.

Where only a tag is used, one of the following additional safety measures will be used to prevent re-energization

- Opening the circuit at
  - Blocking the circuit at
  - Removal of the following circuit element
-

# ELECTRICAL SAFETY PROGRAM

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4. To determine that operation is prohibited, the person applying the LOTO shall attempt to operate the disconnecting means.
5. A voltage-detecting instrument shall be used. Refer to Section H for appropriate devices. Inspect the device and do not proceed if it is damaged. Secure an undamaged device and proceed.
6. Verify proper operation of the device and test for absence of voltage.
7. Repeat verification of device after testing for absence of voltage.
8. Where needed, install grounds on the phase conductors or circuit parts, to eliminate induced voltage or stored energy. Where it has been determined that contact with other exposed energized conductors or circuit parts is possible, apply ground connecting devices rated for the available fault duty.
9. LOTO Complete

## ***E. REMOVAL OF LOTO***

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1. Visually verifies work is complete.
2. Clean up and remove all tools, equipment, and unused materials.
3. Remove all grounds.
4. Notify all personnel involved that the lockout (tagout) is complete, electrical energy will be restored, and to remain clear of equipment and electrical energy.
5. Perform quality control checks.

6. Remove lockout (tagout) devices (This must be done by the person(s) who installed them.)
7. Notify the owner that the equipment and/or electrical supply is ready to be returned to normal operation.
8. Return the disconnecting means to their normal condition.

## ***F. SPECIAL PROCEDURES***

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Each person shall install his/her own personal lockout (tagout) device for all simple LOTO operations where more than one person is involved.

When the lockout (tagout) extends for more than one day, the lockout (tagout) shall be verified to be still in place at the beginning of the next day. Where the lockout (tagout) is continued on successive shifts, the lockout (tagout) is considered to be a complex lockout (tagout).

## ***G. DISCIPLINE***

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Any violation of the procedures in this program will result in: written warning

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Anyone who knowingly operates a disconnecting means that has been locked out or tagged out device will be: terminated

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## ***H. EQUIPMENT***

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Only the following type of locks shall be used for LOTO:

# ELECTRICAL SAFETY PROGRAM

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- Type: \_\_\_\_\_
- Model: \_\_\_\_\_

Only the following type of tags shall be used for LOTO:

- Type: \_\_\_\_\_
- Model: \_\_\_\_\_

The following voltage detecting device(s) shall be used depending on the applicable voltage:

- Voltage Range: \_\_\_\_\_
- Type: \_\_\_\_\_
- Model: \_\_\_\_\_
  
- Voltage Range: \_\_\_\_\_
- Type: \_\_\_\_\_
- Model: \_\_\_\_\_

## **I. AUDIT**

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An audit of this program and procedures shall be conducted annually. The annual audit shall be dated and filed at \_\_\_\_\_.

## **4.2 ENERGIZED ELECTRICAL WORK**

### **A. PURPOSE AND SCOPE**

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This program has been established to keep our electrical workers safe from hazards associated with energized electrical work tasks. Using this policy will help keep our NECA and IBEW electrical contractors compliant with state and federal requirements for employee safety in the workplace.

OSHA and NFPA 70E standards require that all energized circuit parts and equipment be DE-ENERGIZED before any employee works on or near them. De-energizing must be used as the primary method of worker protection from electrical hazards.

***Exemptions to Work Permit.*** There are very few exceptions to this rule. *Work performed on or near live parts by qualified persons related to tasks such as testing, troubleshooting, voltage measuring, etc., shall be permitted to be performed without an energized electrical work permit, provided appropriate safe work practices and personal protective equipment in accordance with this procedure are provided and used.*

### **B. DEFINITIONS**

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#### **1. ARC FLASH HAZARD ANALYSIS:**

A study investigating a worker's potential exposure to arc-flash energy, conducted for the purpose of injury prevention and the determination of safe work practices, arc flash protection boundary, and the appropriate levels of personal protective equipment (PPE).

#### **2. ARC FLASH HAZARD:**

A dangerous condition associated with the possible release of energy caused by an electric arc.

#### **3. ARC RATING:**

The value attributed to materials that describes their performance to exposure to an electrical arc discharge. The Arc is expressed in cal/cm<sup>2</sup> and is derived from the determined value of the arc thermal performance value (ATPV) or energy of break open threshold (EBT).

#### **4. BOUNDARY, ARC FLASH:**

When an arc flash exists, an approach limit at a distance from a prospective arc source within which a person could receive a second degree burn if an electric arc were to occur.

# ELECTRICAL SAFETY PROGRAM

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## **5. BOUNDARY, LIMITED APPROACH:**

An approach limit at a distance from an exposed energized electrical conductor or circuit part within which a shock hazard exists.

## **6. BOUNDARY, RESTRICTED APPROACH:**

An approach limit at a distance from an exposed energized electrical conductor or circuit part within which there is an increased likelihood of electric shock, due to electrical arc-over combined with inadvertent movement, for personnel working in close proximity to the energized electrical conductor or circuit part.

## **7. CALORIE PER CENTIMETER SQUARED (cal/cm<sup>2</sup>):**

The unit of measurement used to express the amount of thermal energy released during an arc flash event.

## **8. ELECTRICAL HAZARD:**

A dangerous condition such that contact or equipment failure can result in electrical shock, arc flash burn, thermal burn, or blast.

## **9. ELECTRICALLY SAFE WORK CONDITION:**

A state in which an electrical conductor or circuit part has been disconnected from energized parts, locked and tagged in accordance with established standards, tested to ensure the absence of voltage and grounded if determined necessary.

## **10. EMERGENCY PROCEDURES:**

Employees exposed to shock hazards shall be trained and regularly instructed in methods of release and resuscitation of victims from contact with exposed energized electrical conductors or circuit parts.

## **11. ENERGIZED ELECTRICAL WORK (EEW):**

Working on or near exposed energized parts 50 volts or greater and/or within the flash protection boundary.

## **12. ENERGIZED ELECTRICAL WORK PERMIT:**

If live parts are not placed in an electrically safe work condition, work by a qualified person shall be performed by written permit only. *Exception:* Diagnostics, testing, troubleshooting, and voltage measuring shall be permitted to be performed without an EEW permit, provided appropriate safe work practices PPE is provided and used.

## **14. EQUIPMENT LABELING:**

Equipment shall be field marked with a label containing the available incident energy or required level of PPE.

## **15. EXPOSED:**

(As applied to energized electrical conductors or circuit parts) Capable of being inadvertently touched or approached nearer than a safe distance by a person. It applies to energized parts that are not suitably guarded, isolated or insulated.

## **16. HAZARD IDENTIFICATION AND RISK ASSESSMENT PROCEDURE:**

An electrical safety program shall include a hazard identification and risk evaluation procedure to be used before work is started within the Limited Approach Boundary or within the Arc Flash Boundary of energized electrical conductors and circuit parts operating at 50 volts or more or where any electrical hazards exists.

## **17. HOST AND CONTRACT**

## **EMPLOYER RESPONSIBILITIES:**

The host employer (general contractor, customer or owner) and the contract employer(s) shall inform each other of existing hazards, personal protective equipment including arc-rated clothing requirements, safe work practice practices, and emergency & evacuation procedures applicable to the work to be performed. There shall be a documented meeting between the Host and Contract Employers. NFPA 70E

# ELECTRICAL SAFETY PROGRAM

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## **18. INCIDENT ENERGY:**

The amount of energy impressed on a surface, a certain distance from the source, generated during an electrical arc event. One of the units used to measure incident energy is cal / cm<sup>2</sup>.

## **19. JOB BRIEFING:**

Before starting each job, the employee in charge shall conduct a job briefing with the employees involved. The briefing shall cover subjects identified on the Energized Electrical Work Permit such as hazards associated with the job, work procedures involved, special precautions, energy source controls, and PPE requirements.

## **20. LESS THAN 50 VOLTS:**

For voltages of less than 50 volts, the decision to de-energize should include consideration of the capacity of the source and any over current protection between the energy source and the worker.

## **21. PERSONAL PROTECTIVE EQUIPMENT (PPE):**

Employees working in areas where electrical hazards are present shall be provided with, and shall use, protective equipment that is designed and constructed for the specific part of the body and for the work to be performed. The equipment shall be maintained in a safe, reliable condition and shall be visually inspected before each use.

## **22. QUALIFIED PERSON:**

A person who is trained and knowledgeable of the construction and operation of equipment or a specific work method and is trained to recognize and avoid the electrical hazards that might be present with respect to that equipment or work method and has received safety training to recognize and avoid the hazards involved. Such persons shall also be familiar with the proper use of special precautionary techniques, personal protective equipment, including arc-flash, insulating and shielding materials, and insulated tools and test equipment. A person can be considered qualified with

respect to certain equipment and methods, but still be unqualified for others.

## **23. RATING:**

Test instruments, equipment, and their accessories shall be rated for circuits and equipment to which they will be connected. They shall be inspected and correct operation verified before and after an absence of voltage test is performed.

## **24. SAFETY TRAINING:**

Employees shall be trained to understand the specific hazards associated with electrical energy. They shall be trained in safety-related work practices and procedural requirements, as necessary, to provide protection from the electrical hazards associated with the irrespective job or task assignments. Employees shall be trained to identify and understand the relationship between electrical hazards and possible injury.

## **25. SHOCK HAZARD ANALYSIS:**

A shock hazard analysis shall determine the voltage to which personnel will be exposed, boundary requirements, and the PPE necessary in order to minimize the possibility of electric shock to personnel.

## **26. WORK DE-ENERGIZED:**

Live parts shall be put into an electrically safe work condition (by de-energizing and using lockout/tagout) before an employee is exposed to electrical hazards. (See Lockout / Tagout Procedures)

When the employer can demonstrate that de-energizing introduces additional or increased hazards or is infeasible due to equipment design or operation limitations, energized work may be allowed.

Examples of increased or additional hazards:

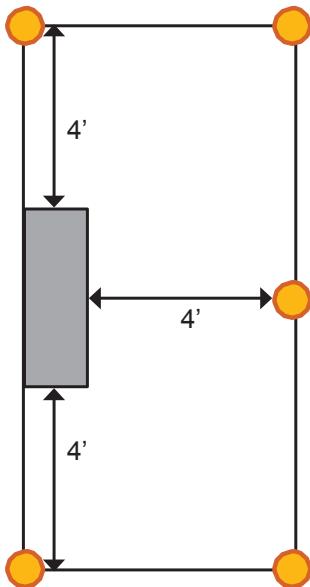
- Interruption of life support equipment.

# ELECTRICAL SAFETY PROGRAM

- Deactivation of emergency alarm systems.
- Shutdown of hazardous location ventilation equipment.

Examples of infeasibility due to equipment design or operational limitations:

- Diagnostics and testing/troubleshooting.
- Circuits that form an integral part of a continuous process that would otherwise need to be completely shut down in order to permit work on one circuit or piece of equipment.



Once boundaries have been established, determine the level of potential arc flash hazard from the appropriate tables located in NFPA 70E or use the NECA PPE Selector Guide.

## **When using the tables of NFPA 70E:**

Locate the specific electrical task or condition for the equipment to be worked upon, select the Arc Flash PPE Category. This number will identify what PPE is required for arc flash related hazards.

Document your selections on the Energized Electrical Work Permit.

Remember! Energized electrical work must be justified and only then shall qualified and protected persons be allowed to cross these boundaries.

**Perform shock and arc flash hazard analysis to determine arc flash protection and shock protection boundaries, predict potential incident energies and select appropriate PPE.**

Keep in mind that Arc Flash Protection Boundary distances vary based on the amount of available fault current and the clearing times of over current protection devices. Shock Protection Boundaries vary based on the nominal voltage and fixed electrical parts (buss) vs. moveable conductors (overhead lines = 10' clearance).

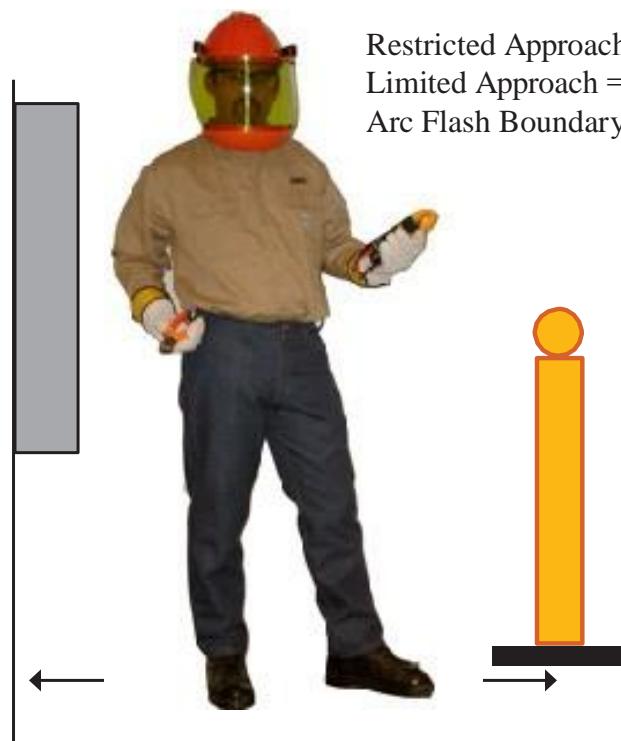
## **Default distances for this document are:**

Shock - exposed fixed parts = 42" minimum  
Arc Flash = 4' minimum \*

*\*for systems not exceeding maximum 100KA cycles (product of clearing time multiplied by available fault current)*

## **Shock Boundaries**

Restricted Approach = 12"  
Limited Approach = 42"  
Arc Flash Boundary = 48"



# ELECTRICAL SAFETY PROGRAM

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## C. RESPONSIBILITIES

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### Safety Director

The Safety Director:

- Will receive all requests to work energized.
- Will coordinate the completion and approval of the Energized Electrical Work Permit and Hazard/Risk Assessment.
- Or designee shall ensure that all employees are qualified and have received specific training needed to work energized on the project.
- Shall compile and maintain a list of authorized individuals who have received training that qualifies them to perform specific tasks energized.

### Supervisor

The Supervisor will:

- Ensure that an Energized Electrical Work Permit is revised before allowing work to begin on an energized circuit.
- Confirm the individuals assigned to work energized on the jobsite are authorized.
- Ensure PPE is provided and worn in accordance with the Hazard Assessment and Energized Electrical Work Permit.
- Ensure all boundaries are maintained

### Employee

Employees will:

- Not perform any energized work for which they have not been authorized.
- Comply with the Energized Electrical Work Permit and all company safety principles including the electrical safety principles.

## D. ACTIONS

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Where planning has determined a phase of a project requires work to be performed energized those involved will consult with the Safety Director.

Any employee assigned to a task that feels that it must be performed energized will submit a request to the Safety Director.

An Electrical Hazard Analysis will be performed. This involves conducting both a shock hazard and arc flash hazard analysis. The Host Company shall be consulted for any information needed to complete the analysis.

The following will be documented on the company Hazard/Risk Assessment Sheet for that project:

- Shock Hazard Analysis Results  
Limited, and Restricted Approach Boundary requirements
- Flash Hazard Analysis  
Flash Protection Boundary (FPB)  
PPE when inside the FPB.

The Energized Electrical Work Permit shall be completed and approved for each task before work can begin. The Permit must include:

- A description of the circuit and equipment to be worked on and the location
- Justification for why the work must be performed in an energized condition
- A description of the safe work practices to be employed
- Results of the shock hazard analysis
- Determination of shock protection boundaries
- Results of the flash hazard analysis
- The Flash Protection Boundary
- The necessary PPE to safely perform the assigned task

# ELECTRICAL SAFETY PROGRAM

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- Means employed to restrict access of unqualified persons from the work area
- Evidence of completion of a job briefing, including a discussion of any job-specific hazards
- Energized work approval signatures

## *Exemptions to Work Permit:*

1. *Work performed on or near live parts by qualified persons related to tasks such as testing, troubleshooting, voltage measuring, etc., shall be permitted to be performed without an energized electrical work permit, provided appropriate safe work practices and personal protective equipment in accordance with this procedure are provided and used.*
2. *A single Energized Electrical Work Permit may be allowed for work that is routine and/or repetitive in nature, such as trouble shooting on a construction project. This permit must be on file with the Safety Director and a list of the specific tasks to which it applies identified. Employees must notify the Safety Director of any conditions that change or if new hazards are introduced and a new permit is created.*

The Energized Electrical Work Permit shall be reviewed by each employee performing the work and will be maintained in the immediate work area.

Employees working in areas where electrical hazards are present shall be provided with, and shall use, protective equipment that is designed and constructed for the specific part of the body to be protected and for the work to be performed. Clothing and equipment shall comply with the specification set forth by NFPA 70E for the task to be performed and the incident energy level to which they may be exposed.

No employees shall be allowed to work within the FPB

where the incident energy level exceeds 167.36 J/cm<sup>2</sup> (40 cal/cm<sup>2</sup>).

Protective equipment shall be maintained in a safe, reliable condition. The protective equipment shall be visually inspected before each use. The requirements for periodic testing of electrical protective equipment found in the ANSI and ASTM standards referenced in NFPA 70E shall be used for this purpose.

Protective clothing (i.e. AR apparel) shall be inspected before each use. The garment manufacturer's instructions for care and maintenance of AR apparel shall be followed.

Clothing shall cover potentially exposed areas as completely as possible. Shirt sleeves shall be fastened at the wrists, and shirts and jackets shall be closed at the neck.

Work clothing or flash suits that are contaminated, or damaged to the extent their protective qualities are impaired, shall not be used. Protective items that become contaminated with grease, oil, or flammable liquids or combustible materials shall not be used.

Conductive articles of jewelry and clothing (such as watchbands, bracelets, rings, key chains, necklaces, metalized aprons, cloth with conductive thread, metal headgear, or metal frame glasses) shall not be worn where they present an electrical contact hazard with exposed live parts.

Employees shall use insulated tools and/or handling equipment when working inside the Limited Approach Boundary of exposed live parts where tools or handling equipment might make accidental contact. Insulated tools shall be protected from damage to the insulating material.

Insulated tools shall be rated for the voltages on which they are used.

# ELECTRICAL SAFETY PROGRAM

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Insulated tools shall be designed and constructed for the environment to which they are exposed and the manner in which they are used.

Fuse or fuse holder handling equipment, insulated for the circuit voltage, shall be used to remove or install a fuse if the fuse terminals are energized.

Ropes and handlines used shall be nonconductive.

Fiberglass reinforced plastic rod and tube used for live line tools shall meet the requirements of ASTM F 711, *Standard Specification for Fiberglass-Reinforced Plastic (FRP) Rod and Tube Used; in Live Line Tools*, 1989 (R1997).

Portable Nonconductive ladders shall meet the requirements of ANSI standards for ladders listed in NFPA 70E.

Protective shields, protective barriers, or insulating materials shall be used to protect each employee from shock, burns, or other electrically related injuries while that employee is working near live parts that might be accidentally contacted or where dangerous electric heating or arcing might occur.

Normally enclosed live parts that are exposed for maintenance or repair shall be guarded to protect unqualified persons from contact with the live parts.

Rubber insulating equipment used for protection from accidental contact with live parts shall meet the requirements of the ASTM standards listed in NFPA 70E.

Plastic guard equipment for protection of employees from accidental contact with live parts, or for protection of employees or energized equipment or material from contact with ground, shall meet the requirements of the ASTM standards listed in NFPA 70E.).

Conductive materials, tools, and equipment that are in contact with any part of an employee's body shall be handled in a manner that prevents accidental contact with live parts. Such materials and equipment include, but are not limited to, long conductive objects, such as ducts, pipes and tubes, conductive hose and rope, metal-lined rules and scales, steel tapes, pulling lines, metal scaffold parts, structural members, bull floats, and chains.

When an employee works in a confined or enclosed space (such as a manhole or vault) protective shields, protective barriers, or insulating materials shall be used as needed to prevent inadvertent contact with these parts. Doors, hinged panels, and the like shall be secured to prevent their swinging into an employee and causing the employee to contact exposed live parts.

Employees shall not perform housekeeping duties inside the Limited Approach Boundary where there is a possibility of contact, unless adequate safeguards (such as insulating equipment or barriers) are provided to prevent contact.

Barricades, signs and warning tape shall be used to identify and maintain boundaries as determined by the Electrical Hazard Analysis.

## **E. EMPLOYEE INFORMATION AND TRAINING**

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Qualified Personnel (i.e. authorized to work energized) shall be trained in:

- The applicable procedures associated with securing and implementing an Energized Electrical Work Permit
- NFPA 70E
- OSHA Electrical Safety Work Practices
- Electrical safety work practices as need for the tasks to be performed.

# ELECTRICAL SAFETY PROGRAM

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Non-Qualified Personnel (workers who will assist, such as an electrical apprentice) shall be trained in:

- The applicable procedures associated with securing and implementing an Energized Electrical Work Permit
- NFPA 70E
- OSHA Electrical Safety Work Practices

Qualified and Non-Qualified personnel shall:

- Receive re-training as needed.
- Participate in the job debriefing and understand all safety precautions determined by the applicable Energized Electrical Work Permit

## 4.3 ELECTRIC TRANSMISSION AND DISTRIBUTION SYSTEMS

### A. PURPOSE AND SCOPE

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This procedure shall be used to provide a safer workplace with respect to the electrical hazards associated with electric transmission and distribution. It addresses the electrical safety requirements found in 1926 Subpart V Power Transmission and Distribution and 1910.269 Electric Power Generation, Transmission, and Distribution.

It is the responsibilities of the host and contract employer to share information related to safety-related work matters and they must coordinate work rules and procedures between them.

### B. MINIMUM APPROACH DISTANCES (MADS)

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No employee may approach or take any conductive object closer to exposed energized parts as identified by

OSHA in the Minimum Approach Distances (MAD) tables unless:

- The employee is insulated from the energized part through the use of proper class rubber insulating gloves with protectors,
- The energized part is insulated from the employee and any other conductive object at a different potential.

### C. POSITIONING OF EQUIPMENT AND WORKERS

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Aerial equipment shall be placed such that the employee can select and maintain a work position that will provide the best protection from potential hazards. When working outside aerial lifts, the employee shall select and maintain a work position that will provide the best protection from potential hazards. Before attempting to do any work on or around energized lines or equipment (e.g., busses, transformers, switch gear, and switching cubicles) the layout shall be studied carefully so that a position can be taken that will provide the greatest amount of clearance. It is especially important that inadvertent movement be anticipated and where practical a position taken that will avoid contact with energized lines or equipment.

When working on overhead conductors or busses from the pole, structure or aerial device, the worker should take a position below the energized part being worked, whenever practical. No employee may be immediately under the work area while work is in progress unless it is necessary to assist employees working above.

Where public safety is an issue, equipment shall be positioned at a location that provides the least hazard to the public while still being able to perform the work safely. Special precautions shall be taken when booms, cranes, poles, etc., are maneuvered in close proximity to energized conductors or exposed to traffic and other hazards.

# ELECTRICAL SAFETY PROGRAM

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## D. APPAREL

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Any employee that is potentially exposed to hazards from flames or an electrical arc shall wear clothing that is arc rated and will not ignite and continue to burn.

When work is performed within reach of exposed energized lines or equipment, all exposed conductive articles (e.g., key or watch chains, rings, wrist watches or bands) shall be removed or rendered nonconductive.

Loose-fitting clothing, key or watch chains, rings, and wrist watches or bands present a hazard when climbing, working around rotating equipment, mobile equipment; therefore, they should not be worn when performing these tasks.

Note: Long hair also presents a hazard when working around rotating and reciprocating equipment; thus, a hair net should be worn when working in these areas.

## E. PROTECTIVE COVER-UP

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Once workers reach a position within reach of energized circuits, they shall immediately cover with electrical protective equipment all live parts (e.g., adjacent wires, cables, neutrals and associated parts) and any paths-to-ground with which a worker could make accidental or incidental contact. This shall include the covering of the conductor, cable, or associated parts being worked on, in so far as practical, while still leaving room to perform the work. The reason for covering conductors, neutrals, and associated parts, and paths-to-ground is to limit the likelihood of incidental contact with phase wires and paths-to-ground in case a worker should slip or in some manner make an unanticipated move that could result in the accidental or incidental contact with live parts or a path-to-ground. Therefore, the electrical protective cover-up installed around the work area shall be arranged to limit the likelihood of any contact with live parts or paths-to-ground.

When all work is completed, the protective equipment shall be removed in a manner that provides the worker with maximum protection at all times while removing the electrical protective equipment, and moving out of the energized area.

## F. OVERHEAD WORK

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The appropriate Class II or III rubber insulating gloves with glove protectors, shall be worn on both hands at all times when working on or when working within reach or extended reach of 25 kV or less, phase-to-phase, or 15 kV or less phase-to-ground. A hardhat, safety glasses, and FR clothing are also required to be worn. These requirements exist regardless of the type of work being performed, and even when protective equipment is in place or is being installed.

Note: For voltages from 0 - 600 volts, Class "0" gloves with protectors may be worn provided all MADs are maintained at all times.(Note: Class "00" gloves are available for use under 500V)

When installing or removing insulated protective equipment without the use of a live-line tool and when working directly on energized conductors above 5 kV phase-to-phase, the following additional rules shall be complied with:

1. Workers shall isolate themselves from ground contact by use of an insulated aerial device. Approved insulated platforms may be utilized on voltages less than 15 kV phase-to-phase. Any equipment used for this purpose shall be specifically approved and maintained for this work. Workers shall maintain MADs, or provide insulation from all paths-to-ground, including poles, and from other phase conductors.

# ELECTRICAL SAFETY PROGRAM

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2. Work shall not be performed during rain, snow, mist or heavy fog. If such conditions develop when work is in progress, common sense and good judgment should be used to determine the proper course of action. This action could include:

- leaving the job as is,
- making the job temporarily safe with live-line tools or other methods, or
- finishing the task or job with live-line tools.

Note: When line hoses, blankets and hoods are wet, they do not provide adequate protection for the worker.

## **G. LIVE-LINE TOOL WORK**

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Live-line tool work is a work method which provides the worker with adequate clearance from surfaces at different potential by use of tools and equipment of sufficient length and dielectric strength to maintain clearance and insulation from these surfaces.

Energized distribution lines of voltages 25 kV volts or below, phase-to-phase, or 15 kV volts or below, phase-to-ground, shall be worked using approved methods, either directly with rubber insulating gloves with protectors or with live-line tools with the worker isolated from the energized conductors.

All energized lines above 25 kV volts, phase-to-phase or

15 kV volts phase-to-ground shall not be handled except with approved live-line tools or equipment and methods designated for the voltage of the line being worked. MADs shall be maintained while using live-line tools.

Tools and equipment for doing live-line work shall be used in the manner for which they were designed. While handling live parts with live-line equipment, positive control shall be maintained at all times. With the exception of handling short jumpers, workers shall

not depend upon their physical ability alone to maintain positive position or control of energized conductors. Collar ropes, rope blocks, tong saddles, clamps, lever lifts or other approved equipment, shall be used regardless of how light the weight or strain of the conductor might appear to be.

Lines used to hold out energized conductors, if practical, should not be depended upon alone to hold energized conductors away from workers. Auxiliary live-line arms, hand poles, lift poles, etc., should be used to maintain more positive control of the energized conductors.

Approved synthetic rope may be allowed to contact energized conductors. All ropes allowed to contact energized conductors shall be kept clean and dry to ensure adequate dielectric strength.

When tying in or untying conductors on insulators, extreme care shall be taken to prevent tie wires and the metal part of tie sticks from contacting arm, pole or hardware.

Protective equipment with insulated handles is considered a live-line tool and may be installed from the pole or structure provided proper clearances are maintained.

All live-line tools shall be electrically tested according to OSHA requirements. Only live-line tools made of fiberglass and rated at 100 kV per foot are approved for use on energized conductors.

Appropriate containers (e.g., canvas, hot stick boxes or canisters on trucks) shall be used to keep live-line tools, including jibs, clean, dry and protected from scars and abrasions.

Live-line tools shall be visually inspected for defects and compliance with the test date before use each day.

All live-line equipment shall be kept clean and waxed to preserve its insulating qualities. If a live-line tool

# ELECTRICAL SAFETY PROGRAM

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is refinished or repaired, it shall be electrically tested before being returned to service.

Fiberglass beams, liners and baskets on insulated aerial devices shall be kept clean, dry and maintained as a live-line tool using approved methods to preserve their insulating qualities when such equipment is used to insulate the worker.

Cable and chain hoists shall not be used on or in close proximity of energized conductors.

Hot line hoists shall be insulated from any path to ground when used on energized conductors above 600 volts. These hoists shall be kept clean and dry. Handles of these hoists shall be maintained as a live-line tool.

Insulated mechanical jumpers shall be given a thorough periodic inspection. Prior to each use, they shall be given a visual inspection to check for physical damage to the insulation.

## ***H. DENERGIZING LINES AND EQUIPMENT FOR EMPLOYEE PROTECTION***

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### **Clearances**

The employee in charge of job is responsible for obtaining and releasing clearances. The employee in charge must have a thorough understanding of the Host Company's clearance procedure. Request from the Host Company any procedure(s) that contain the general instructions for obtaining and releasing clearances and handling of electric equipment, lines, and loads. The instructions shall be studied and adhered to in all instances.

Clearances should not be given or accepted on lines or equipment without an open-air break between all sources of supply and the line or equipment on which work is being done. Under certain circumstances, it

may be impractical to obtain an open-air break. Under these circumstances specific methods and equipment, approved by the Host Employer or Management, may be used to obtain clearances. These shall be documented on the Job Briefing form and thoroughly discussed during the job briefing.

Multiple crews working on the same line or equipment must have either a single worker in charge responsible to coordinate all activities or independently comply with the provisions of all standards that apply:

- Hot line tags are important and shall be obtained according to the Host Company's policy.
- Hold Tags shall be attached to all components listed on the clearance instructions.
- Hold Tags shall not be removed without proper authorization!

## ***I. GROUNDING FOR PROTECTION OF EMPLOYEES***

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### **Grounding of Lines and Equipment – “If it isn’t grounded, it isn’t dead!”**

All equipment and/or lines that are not properly cleared, tagged, tested for voltage (voltmeter or fuzzing – only above 13.2Y / 7.62 kV) and grounded are energized and shall be worked accordingly.

Note: On secondary lines operating at less than 600 volts, if it becomes impractical to begin or continue work with temporary grounds in place, the grounds may be removed, and the secondary worked without PPE provided that:

- The secondary is isolated from all source voltages
- There is no possibility of induced voltages.

# ELECTRICAL SAFETY PROGRAM

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Grounds may be temporarily removed only as necessary for test purposes. Extreme caution shall be exercised during this procedure.

The best protection is obtained when all points in the work area are at the same potential (i.e., within an equipotential zone.) Common sense and good judgment are required in the application of system safety grounds to maintain maximum protection for workers.

A temporary ground is used to help establish an equipotential zone (i.e., work zone of protection.) Protective grounding equipment shall be capable of handling the maximum available fault current that could flow for the time necessary to clear the fault.

When applying a temporary ground, the ground-end connection shall be applied first, and the other end attached to the line or equipment with an approved live-line tool. When the ground is to be removed, it shall be removed from the conductor using an approved live-line tool before the ground-end connection is removed.

Note: for lines or equipment operating at 600 volts or less, insulating equipment other than live-line tools may be used if the following procedure is used.

- Before the grounds are applied to the lines or equipment, prior to de-energizing test for voltage using a voltmeter.
- After de-energizing the lines or equipment, check for the absence of voltage with the same voltmeter used above.
- Properly install grounds.
- Before the grounds are removed ensure that the lines or equipment are not energized at the time a ground is removed.
- Properly remove grounds.

On jobs where conductors or switches are to be opened, or openings are to be closed, additional system safety grounds shall be installed in the immediate work area to bridge the opening and keep the work area at the same potential for the worker. This practice will limit the likelihood the worker will contact ungrounded points, or points at different potentials.

The system neutral is a current carrying conductor, therefore, if the neutral is to be cut, or a broken neutral is to be spliced together, additional system safety grounds shall be installed in the immediate work area to bridge the opening and keep the work area at the same potential for the worker.

Open wire high-line telephone lines and insulated overhead ground wires may have high-induced voltage on them and shall be worked with approved live-line tools or be properly grounded.

If the possibility of step potential exists, workers on the ground shall wear approved rubber overshoes.

The ground connection shall be made to one or more of the following in order of preference.

For Distribution Systems this may be:

- Common neutral,
- Permanent ground, such as driven ground or counter-poise system,
- Temporary driven grounds outside the normal work area around the pole.

The Host Employer may state a preference here.

## **J. UNDERGROUND ELECTRICAL (UD) INSTALLATIONS**

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On Underground Distribution (UD) systems the

# ELECTRICAL SAFETY PROGRAM

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appropriate Class 0 (only for direct buried cables operating at  $\leq 600$  V), Class II or III rubber insulating gloves with protectors, a hardhat, safety glasses, FR clothing, and approved rubber overshoes shall be worn when:

- Opening or closing pad mounted or above ground enclosures housing direct buried cables
- Spiking cables
- Performing switching.

Notes:

- For the sole purpose of opening or closing for inspection of underground enclosures, Class II gloves are permitted up to 25 kV phase-to-phase, and Class III gloves are permitted up to 45 kV phase-to-phase.
- Caution must be exercised to determine if any abnormal condition exists, such as, a single phasing condition before opening any pad-mounted enclosure.

The appropriate Class II or III rubber insulating gloves with protectors, shall be worn on both hands at all times when working on or when working within reach or extended reach of MADs of the direct buried cables and associated parts such as elbows and bushings energized at 25 kV or less, phase-to-phase, or 15 kV volts or less phase-to-ground, regardless of the type work being performed. A hardhat, safety glasses, FR clothing, and approved rubber overshoes are also required to be worn.

Note: For voltages from 0 - 600 volts, Class "0" gloves may be worn provided all MADs are maintained at all times. (Note: Class "00" gloves are available for use under 500V)

Unprotected parts of the employee's body may encroach within the MADs of such cables and associated parts. If there is likelihood that any unprotected part of the body can come into incidental

contact with exposed energized parts, protective cover-up shall be installed over such cables and associated parts to prevent any incidental contact. This work may be performed only when absolutely necessary during rain, snow, mist or heavy fog.

The neutral of a direct buried cable is part of the system neutral; thus, cannot be cut or separated without first jumping out the neutral conductor. The semi-conducting covering is a grounded sheath and is a path-to-ground.

Exposed live parts such as live-front terminations operating above 5 kV phase-to-phase or 3 kV phase-to-ground must be worked with live-line tools.

All previously energized primary UD cables, regardless of its condition, must be spiked with an approved spiking tool before cutting the cable.

The energized conductor of an insulated direct buried cable shall be considered within reach or out of reach as follows:

- With the concentric neutral and a semi-conducting covering in place, the conductor is considered out of reach.
- With the concentric neutral removed, and the semi-conducting covering is in place, the conductor is considered within reach. With proper protective equipment in place over the semi-conducting covering, the conductor is considered out of reach.
- With both the concentric neutral and the semi-conducting covering removed, the conductor is considered within reach. Even when adequately covered with proper protective covering and/or physical barriers, any exposed energized terminations shall be considered within reach.
- Note: When making terminations to UD cables in place, exposed energized parts from 0 - 600 volts

# ELECTRICAL SAFETY PROGRAM

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may be considered out of reach when covered with properly installed protective equipment or isolated with physical barriers.

## **K. DIRECT BURIED CABLES**

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### **Uncovering Cables**

Common sense and good judgment should be used when removing the dirt from energized direct buried cables. After the dirt has been removed, a visual inspection shall be made before working on these cables. Rough handling of energized direct buried cables shall be avoided. Before uncovering direct buried Under-ground Distribution secondary cables by hand digging, these cables shall be de-energized and grounded. Energized Underground Distribution secondary cables operating from 0 - 600 volts may be uncovered by hand digging provided that:

- The cable route and depth are generally known,
- The hand tool has a non-conductive handle such as fiberglass, and
- The workers wear, AR clothing, hardhat, protective eyewear, and approved rubber footwear. When the energized secondary cables are exposed and become within reach, Class "0" gloves with protectors may be utilized unless primary cables are also within reach – which would then require Class II or III rubber insulating gloves with protectors.

### **Splicing and Tapping UD Secondary Cables**

Only trained and qualified workers at the jobsite may splice or tap up UD secondary cables, operating from 0 - 600 volts, energized or de-energized.

## **L. SUBSTATIONS**

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Any employee entering an attended substation, who does not regularly work in the station, shall report his or her presence to the employee in charge in order to receive information on special system conditions affecting employee safety.

# EMERGENCY ACTION PLAN

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## A. PURPOSE AND SCOPE

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The potential exists at every workplace that natural or manmade disasters can threaten the safety of individuals working at or occupying a facility or jobsite. The goal of this program is to provide an Emergency Action Plan to effectively respond to any threat and provide protection in the event of an incident. This plan describes the basic management procedures that are to be followed during emergencies. It also addresses the requirements for Emergency action plans as identified in General Industry 1910.38 and Construction 1926.35 as well as offers specific actions that are to be taken in response to various emergencies.

## B. RESPONSIBILITIES

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The response to an incident is both event and location specific. The responsibilities that follow are fundamental to the success of any Emergency Response Plan. Our company may have several representative individuals for each of the following titles at a given location. Depending on the size of the jobsite or location, multiple individuals for each title may share responsibility. These individuals will be identified to the host and/or general contractor at the pre-job meeting and to employees before the job begins.

### Safety Director

The Safety Director will:

- Contact Emergency Medical Services (EMS), internal and/or external Emergency Response Units, and/or law enforcement agencies, as needed and if they have not already been contacted.
- Provide communication between the Company, Host Employer General Contractor or Construction Manager and EMS, internal or external

Emergency Response Units, and/or law enforcement agencies, as needed.

- Notify the Management of the emergency, and of any actions taken.
- Respond to an incident as instructed by Management
- Provide information to others affected by the emergency (property owners, contractors, etc.) regarding emergency and evacuation procedures, evacuation routes and assembly area(s).
- Interface with all contractors to ensure coordination of their emergency response procedures with this Emergency Response Plan.

### Management

The Management will:

- Authorize the Safety Director to serve as the Emergency Response Coordinator. Provide a list of back-up coordinators if the emergency will impact evening and night operations.
- Assess the situation(s) and determine the level(s) of response necessary.
- Consult with the Safety Director and site supervisor, as needed, to assist in the assessment.
- Evaluate the data provided by the Safety Director regarding the situation.
- Provide authorization to respond, including, but not limited to, evacuation of additional areas, buildings, etc. in the vicinity, as needed.
- Establish an Emergency Operations Center (EOC) or determine if one has been established for the jobsite.
- Appoint an Incident Commander to manage the EOC or assign a company representative to the EOC if it has been established by others.

# EMERGENCY ACTION PLAN

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- Designate a Public Relations Officer or spokesperson for the company and inform him/her of the emergency and any of actions taken.

## **Public Relations (or Designated Spokesperson)**

The Public Relations Spokesperson will:

- Serves as the contact and provide communication to the media and other public agencies regarding the emergency.

## **Supervisor**

The Supervisor will:

- Provide instructions to employees on actions to take when an emergency occurs, notification to emergency responders, evacuation procedures and routes and assembly area(s).
- Coordinate emergency and evacuation procedures, evacuation routes and assembly area(s) with others on site.
- Make sure employees and visitors exit the site/building, and meet at the prearranged assembly area(s) during an evacuation.
- Be responsible for conducting head-counts to account for all employees, contractors and visitors.
- Assist Management, the Safety Director and Public Relations with communications, as requested.
- Provide technical support on site based on the emergency to handle jobsite or building systems controls, as necessary.
- Assist with crowd control during evacuation.

## **Employees (As designated by the Safety Director)**

Designated employees will:

- Assist in the evacuation of buildings (i.e. assist the handicapped, check rooms to ensure all have exited as long as it is safe to do so.)

- In the event of a bomb threat, assist in conducting a sweep of the jobsite, building areas or buildings, as directed by the Safety Director and response teams. Note: Employees familiar with the search area may often provide the best assistance to Safety Director and/or search teams in identifying unusual objects that do not belong in the search area.

## **Visitors/Contractors**

In an emergency, individual employees are responsible for the safety of their visitors. If an individual is visiting you, you are to provide assistance to the visitor regarding emergency procedures and evacuation routes. The Safety Director will work with all contractors to ensure coordination of their emergency procedures with this Emergency Action Plan.

## ***C. EMERGENCY REPORTING AND NOTIFICATION PROCEDURES***

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Emergency (life safety, fire and other disasters) reporting for all jobsites shall be the 911 system unless other emergency services have been designated for your specific location, as indicated below. When using 911, details of the incident will be provided to the dispatcher. They will ensure appropriate services such as Emergency Medical Services, Fire and Police, respond. Each location/jobsite will have an emergency notification system to make all employees aware of any incidents. At some locations a public address (PA) system is installed to provide information and emergency broadcast announcements.

# EMERGENCY ACTION PLAN

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## Location Specific Reporting Instructions

Safety Coordinator: \_\_\_\_\_

Phone Number: 911 or \_\_\_\_\_

Employee Emergency  
Notification Procedures: \_\_\_\_\_

Other: \_\_\_\_\_

Individuals calling in an emergency will:

- State the location (i.e. jobsite address or descriptors, building and floor and location on the jobsite, floor and/or room).
- Identify the type of situation requiring emergency assistance.

Employees are directed to address personal safety first. Calls should be made only when it is safe to do so. Procedures for specific threats are contained in this program.

## Emergency Alarm/Employee Notification

The following system(s) are available at the jobsite/workplace to notify personnel of an emergency situation:

- Alarm Bell/Siren
- Voice Broadcast/Bullhorn
- Other: \_\_\_\_\_

## **D. ESCAPE ROUTES**

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When evacuation is necessary individuals will leave by means of the nearest exit using escape routes as designated by the supervisor and assemble at the pre-designated meeting areas.

## **E. SHELTER-IN-PLACE**

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Depending on the emergency (tornado, biological or chemical attack or civil disturbance), evacuation or in-place sheltering may be necessary. The supervisor shall identify "shelter in place" locations for employees to respond accordingly to alarms/emergency notifications based on the emergency procedures in this plan.

## **F. TRAINING**

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### General

The Safety Director reviews the Emergency Response Plan with management. Supervisors train their employees to ensure they have a thorough understanding of the Emergency Response Plan. New employees receive training during their first day of employment.

### Special

Personnel assigned to special tasks associated with a given emergency receive training regarding the hazards, control measures and their responsibilities in emergency response. Only employees who are trained in the use of fire extinguishers are directed to use them. All other personnel must evacuate buildings or follow the instructions of emergency response personnel.

# EMERGENCY ACTION PLAN

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## **Practice**

The Safety Director will coordinate with appropriate outside emergency services and the local Fire Department to schedule evacuation exercises and fire drills.

## **G. MEDICAL EMERGENCY**

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If someone requires emergency medical attention, EMS is contacted per the Emergency Reporting and Notification Procedures. The Safety Director is notified as soon as possible once the immediate needs of the victim are managed. Training on the availability and location of defibrillators as well trained operators shall be provided as part of the emergency response plan training. Individuals will not attempt to move an individual in need unless trained in First Aid/CPR training and/or the victim is in greater danger if not moved.

## **H. ELEVATOR ENTRAPMENT**

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Various types of elevators may be found on any jobsite. The following provides our company procedures in the event employees are trapped in one.

- Where available a button next to the telephone symbol/icon located on the call plate may be used to automatically call building operations or security personnel.
- Where available a telephone receiver or a panel marked with a telephone will providing access to a receiver may be used to automatically call building operations or security personnel.

Callers will provide the responder with the elevator and floor it has stopped. Callers will stay on the phone and await further instructions. Procedures for

elevators that do not have communication devices are as follows; remain calm, be patient for someone to notice the elevator is malfunctioning and call aloud for help in a loud voice to alert passers-by and/or responders. In all cases qualified persons shall respond and assist. Trapped individuals should remain in the elevator **unless specifically directed to attempt escape.**

## **I. FLOODING**

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The Safety Director shall be notified of any flooding on the jobsite. The Safety Director will arrange to have the water supply shut off and to send qualified personnel to respond and provide assistance.

If possible, and if it can be done safely, disconnect all electrical equipment. If the source of water is overhead and time will allow, the affected area will be cleared to minimize water damage.

## **J. POWER OUTAGE**

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When work is performed in areas where power is normally provided and a power outage occurs, the Safety Director shall be notified due to the threat of fire. A visual inspection of the area will be conducted to rule out fire (electrical or otherwise) as the cause of the outage. Where emergency lighting allows and/or flashlights are available an evacuation of the building or area shall occur.

# EMERGENCY ACTION PLAN

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## **K. FIRE & EXPLOSION**

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On jobsites where a fire alarms stem is in place, notification of a fire shall be provided through activation of the system by smoke, fire or a pulled alarm.

When an alarm is activated, everyone shall exit the buildings immediately via the appropriate exit-way.

When a fire has been observed and the alarm system has not been activated, employees shall exit the immediate area. As soon as it is safe, they will pull an alarm or follow the instructions in the Emergency Reporting and Notification Procedures.

Where they exist, doors shall be closed behind exiting employees to delay the spread of the fire.

Employees shall move to the safe area 200 feet from the building as identified by the supervisor before the job began.

A headcount will be taken by managers and supervisors to ensure everyone has exited.

Employees shall remain in the safe area until further instructions are provided by the Supervisor, Safety Director or other authority assigned to the area.

## **L. BOMB THREAT**

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Employees shall immediately report suspicious object or parcel or bomb threats to their Supervisor or the Safety Director. Suspicious packages shall be identified as having some of the following characteristics:

- Protruding wires, aluminum foil, oil stains and/or emit a peculiar odor.
- Address labels that display restricted endorsements (PERSONAL or PRIVATE.)
- Address labels that are: handmade, written with distorted handwriting or made with cut and paste lettering.
- Address labels that contain inaccuracies in the addressee's name and/or title.
- Display a return address or the return address may be fictitious.
- Having excessive postage.
- Wrapped unprofessionally and irregular shapes, bulges or soft spots in the form of a letter bomb, usually feel rigid and appear uneven or lopsided.

## **Suspicious Parcel or Object**

When a suspicious parcel or object is identified, it shall:

- Not be touched or moved.
- Be isolated and, if possible the area evacuated.
- Kept away from others

Information about the package who handled it, when/where it was discovered, etc. shall be noted and provided to the safety director or responding agency. Information about the package shall not be shared with any other individuals.

## **Verbal Telephone Threats**

When a verbal telephone threat is received, the following actions are taken:

- The caller shall be kept on the line as long as possible so that you can gather more information. A record of words spoken by the caller should be

# EMERGENCY ACTION PLAN

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kept. If caller identification is available, the caller's phone number shall be recorded.

- If the caller does not indicate the location of the bomb or the time of possible detonation, the employee on the line shall request this information.
- Attention shall be given to background noises such as motors running, music or any other noise, which may give an indication as to the location of the caller.
- The voice (male/female), voice quality (calm/excited), accents or speech impediments, and approximate age (young or old) shall be noted.

The Safety Director shall be notified immediately of any bomb threats. The person who received the call, he/she shall remain available until the Safety Director arrives. In some instances, the individual who received the call may be asked to meet with Safety Director at another location. Evacuation of the area shall be determined by the Safety Director or law enforcement.

## Written Threats

Employees shall respond to written bomb threats as follows:

- Immediately notify Safety Director upon receipt of a threat.
- Promptly write down everything about the threat (i.e., location, room, area, wall, floor, etc.)
- Remain calm and do not discuss the threat with others.
- Save all materials, including envelopes or containers. Once the message is recognized as a bomb threat, further unnecessary handling should be avoided.

The Safety Director will notify appropriate law enforcement and management.

## **M. CHEMICAL EMERGENCIES**

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There are two types of chemical emergencies that can occur; a chemical leak or chemical attack. A chemical attack is the deliberate release of a toxic or unknown gas, liquid or solid that can possibly poison people and/or the environment. This can be associated with a terrorist act. A chemical leak is associated with a malfunction of a system or activity, such as a traffic accident near a jobsite involving a chemical tanker truck. The following addresses common emergencies or basic procedures to approach hazardous chemicals should there be a release on the jobsite or in the workplace.

### Chemical Leak - Natural Gas Leak

Leaks can occur on indoor lines or when outdoor lines are damaged. In the event of a natural gas leak the following procedures shall be followed which are identified by the three R's: Recognize, React, and Report.

#### **Recognize**

- In its natural state, natural gas is colorless and odorless. Utility companies add a distinctive odor that of rotten eggs, to make even the smallest leaks easier to detect. You should smell this odor when a leak occurs. Other signs of a leak include a blowing or hissing sound, dead or discolored vegetation in an otherwise green area, flames (if a leak has ignited), dirt or dust blowing from a hole in the ground and/or bubbling in wet or flooded areas.

#### **React**

- Assess the immediate threat to human life if a fire or explosion were to occur
- Evacuate the area as needed by providing verbal instructions and move 200 feet away from the area of the leak or the building. When in doubt about the level and possible threat, evacuate.

# EMERGENCY ACTION PLAN

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- TURN OFF AND DO NOT USE cellular phones, radios, pagers.
- DO NOT TURN ON/OFF flashlights, lights, alarms, electrical equipment, elevators or other devices capable of producing static electricity, sparks, arcs or open flame.
- If possible, stay away from carpeted areas to avoid sparks of static electricity.
- Do not start vehicles.

## Report

- When you are away from the gas leak contact your Supervisor or the Safety Director.
- Safety Director will notify Building Operations or the gas company, as appropriate.

## Chemical Attack

Typically notification of a terrorist act will come through local law enforcement agencies. Actions described below offer procedures to follow in the event of a threat. A chemical attack may occur without advance warning. Signs of a chemical attack include many people suffering from watery eyes, twitching, choking, difficulty breathing or losing coordination. Many sick or dead birds, fish or other small animals are also cause for suspicion. The following also provides procedures to follow when an incident occurs without warning.

If a threat of a chemical attack is received, the Safety Director will notify law enforcement.

If necessary and time allows for a safe evacuation of the jobsite, law enforcement will make the decision. Supervisors will be contacted regarding the evacuation.

If time does not permit a safe evacuation or an evacuation would require individuals to pass through

contaminated areas, supervisors will be contacted to instruct employees, other contractors and visitors where to seek shelter. Follow the procedures for in-place sheltering as provided below. Depending upon the security considerations, the PA system may or may not be used.

Supervisors or their designees will take the lead and ensure exterior doors/windows and air vents are closed as quickly as possible.

Staff assigned to the building will turn off all fans and heating and air conditioning systems. Some systems automatically provide for exchange of inside air with outside air. These systems, in particular, need to be turned off, sealed and/or disabled.

If informed there is a possibility or danger of explosion, close the window shades, blinds or curtains as appropriate.

All individuals will be directed to gather whatever essential disaster supplies are available in the building from offices, custodial closets, etc. This includes items such as nonperishable food, bottled water, battery-powered radios, first-aid supplies, flashlights, batteries, duct tape, plastic sheeting and plastic garbage bags.

Select interior room(s) above ground floor with the fewest windows or vents. Room(s) should have adequate space for everyone to be able to sit. Avoid overcrowding by selecting several rooms, if necessary. Large storage closets, utility rooms, pantries, copy and conference rooms without exterior windows will work well. Avoid selecting a room with mechanical equipment like ventilation blowers or pipes. This equipment may not be able to be sealed from the outdoors.

# EMERGENCY ACTION PLAN

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It is ideal to have a hard-wired telephone in the room(s) you select. Call emergency contacts and have the phone available if you need to report a life-threatening condition. Cellular telephone equipment may be overwhelmed or damaged during an emergency.

Take emergency supplies and go into the room you have designated. Seal all windows, doors, and vents with plastic sheeting and duct tape or anything else you have on hand. Do not cover glass, just joints.

Write down the names of everyone in the room. Call the Safety Director with this information.

The Safety Director will monitor law enforcement communications as well as local radio and television or use the Internet. The law enforcement will be kept apprised of the situation and provide further instructions. Wait at your location until you are told all is safe or to evacuate.

## Spill Containment Plan

The purpose of this spill containment plan is to inform employee(s) about the hazards associated with the unexpected release of Hazardous Substance(s) (HS) in the areas where personnel are performing tasks. Safety Data Sheets (SDS) for the chemicals commonly used by employees in the performance of their duties and responsibilities should be readily accessible. By being aware of the potentials of accidental release of these and other chemicals, we can eliminate or minimize any exposure to personnel or the environment. During the course of each day, employees may be exposed to chemicals used by other contractors and plants where work is being performed and each employee must be familiar with the Hazard Communication Plan for each jobsite where their work is performed.

- Each Site Superintendent, Foreman or Lead Electrician must review drawings or other information provided by the Owner, General Contractor, Project Coordinator or other interested party about the location, labeling, handling procedures and contact information of the responsible party for the chemicals known to be present onsite where work is to be performed.
- Each Employee shall be given the proper information concerning any exposure from the chemicals known to be present and the proper abatement procedures, should any release occur. This includes notification to plant personnel, signs and symptoms of exposures, visual and audible warning signals and the proper Personal Protective Equipment needed for safe handling.
- Every employee onsite must be familiar with the location of any spill response kits, drains, plant emergency contact information, and proper egress from areas where chemicals may be used, stored, loaded or unloaded.
- Preventive measures include:
  - Employees properly trained to reduce the number of human errors that contribute to spills.
  - Visual inspections prior to commencing work for any signs of spills or leakage from any hazardous substances that may be present in the work area.
  - Methods and procedures available for the containment of any release of hazardous substances.
  - Placement of temporary liners or absorbent material prior to the use or transfer of any hazardous substance for containment purposes.
  - Locations of nearest communication interface for summoning Emergency Personnel and the nearest medical facility, should medical attention be necessary.

# EMERGENCY ACTION PLAN

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## **Response Actions in Case of Spill**

- If safe to do so, control the source to prevent further spillage.
- Cover and/or block any and all drains in the spill area to prevent material from entering sewer, storm-water or septic systems.
- Notify emergency contact and/or plant personnel per site procedures.
  - Fire/Rescue: 911 or local number
  - Plant Emergency Contact
- Use absorbent material to contain the spill, (Dry Litter, Absorbent pads or Synthetic Absorbents) or create temporary berms to contain spill.
- Secure the site from unauthorized person(s) to prevent unnecessary exposures.
- If safe to do so and the spill is minimal, clean up the spill and treat it as hazardous. Store in an approved container for proper disposal per approved procedures. If spill is too large, contact appropriate emergency response agencies for assistance.
- Report the spill to proper authorities or appropriate agencies.
  - Local Authority: \_\_\_\_\_
  - Other Specific Agency: \_\_\_\_\_

## **Spill Reporting**

As soon as practical, please forward the following information to the plant contact individual, company safety supervisor and/or owner for the proper reporting of accidental spillage and/or release of hazardous substances.

- Location of the spill and time it was discovered.
- Material or substance released in the spill.
- Cause of the spill or release.
- Description of the containment area and the

methods used to contain the spillage.

- Estimate amount of volume released.
- List of personnel exposed during the spill, containment and cleanup, if applicable.
- Weather conditions
- Procedures for preventing future release and spillage of the material involved.

## ***N. EARTHQUAKE***

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The following procedures shall be followed in the event of an earthquake.

Stay inside until the shaking stops and it is safe to go outside. Most injuries during earthquakes occur when people are hit by falling objects when entering or exiting buildings.

**Drop, Cover and Hold On!** Minimize your movements during an earthquake to a few steps to a nearby safe place.

If you are indoors, take cover under a sturdy desk, table or bench, or against an inside wall, and hold on. Stay away from glass, windows, outside doors or walls and anything that could fall, such as lighting fixtures, wall hangings or furniture.

If there isn't a table or desk near you, cover your face and head with your arms and crouch in an inside corner of the building. Doorways should only be used for shelter if they are in close proximity to you and if you know that it is a strongly supported load-bearing doorway.

# EMERGENCY ACTION PLAN

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If you are outdoors, stay there. Move away from buildings, streetlights and utility wires.

If you become trapped in debris:

- Do not light a match.
- Do not move about or kick up dust.
- Cover your mouth with a handkerchief or clothing.
- Tap on a pipe or wall so rescuers can locate you. Use a whistle if one is available. Shout only as a last resort - shouting can cause you to inhale dangerous amounts of dust.

If you must go out after an earthquake watch for fallen objects, downed electrical wires, weakened walls, bridges, roads and sidewalks.

Be prepared for aftershocks. These secondary shock waves are usually less violent than the main quake but can be strong enough to do additional damage to weakened structures.

If the electricity goes out, use flashlights or battery powered lanterns. Do not use candles, matches or open flames indoors after the earthquake because of possible gas leaks.

Evacuate buildings if fumes are detected and the building is not well ventilated.

## O. TORNADO

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A tornado is a violently rotating column of air extending from a thunderstorm to the ground. They are most

likely to occur during the spring and summer months between 3 p.m. and 9 p.m., but can occur at any time of day or night and at anytime of the year. When conditions are right for a tornado the National Weather service will issue a Tornado Watch. This means tornadoes are possible. If they issue a Tornado Warning, a tornado has been sighted or indicated by weather radar.

### **Tornado Watch Procedures**

In the event of a tornado watch, remember the following:

- The Safety Director will monitor NOAA Weather Radio and commercial radio or television newscasts for the latest information and keep law enforcement apprised of conditions.
- If necessary, the law enforcement will close the affected facility (or facilities). Building occupants will be notified what to do over the PA system. If a PA system is not available, supervisors will be contacted to notify employees, other contractors and visitors of the closure and what to do.
- In the event time does not permit a safe evacuation, building occupants are to seek safe shelter.

### **Tornado Warning Procedures**

In the event of a tornado warning, remember the following:

- When a tornado has been sighted, seek shelter immediately.
- Seek shelter in buildings as listed below.
- If you are in a building without a basement, go to an interior room on the lower level (closets, interior hallways). Put as many walls as possible between you and the outside. Get under a sturdy table and use arms to protect head and neck. Stay there until the danger has passed.

# EMERGENCY ACTION PLAN

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- Stay away from windows, doors and outside walls. Go to the center of the room. Stay away from corners because they attract debris.
- If caught outside with no shelter, lie flat in a nearby ditch or depression and cover your head with your hands. Be aware of the potential for flooding.

Typical locations that offer a good shelter in place for tornados are: basements, hallways, corridors, and internal break rooms. Places to avoid include lobbies, near windows, away from large overhanging fixtures, etc.

## **P. HURRICANE PREPAREDNESS PLAN**

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### **Hurricane / Typhoon:**

A storm or cyclone in which the maximum sustained surface wind is 74 mph (119 km/hr) or more. The term hurricane is used for Northern Hemisphere tropical cyclones east of the International Dateline to the Greenwich Meridian. The term typhoon is used for Pacific tropical cyclones north of the Equator west of the International Dateline. It is important to know the difference between a Hurricane Warning where winds in excess of 74 mph are expected within 36 hours and a Hurricane Watch where winds are possible within 48 hours of announcement.

When a Hurricane Watch is announced, take preliminary precautions and prepare to follow instructions in the event a Hurricane Warning is issued. These include:

- Plan evacuation route for personnel, be site specific
- Contact your local Emergency Management Office or American Red Cross for community hurricane preparedness plan

- Maintain vehicles with fuel for evacuation
- Maintain supplies for personnel to include:
  - Flashlights and batteries
  - Portable radio and batteries
  - First-Aid kit
  - Drinking Water and non-perishable food supplies
  - Can opener (manual type)
  - Remind employees to have all medicines and prescriptions needed
- Secure Tools, Equipment, and Vehicles remaining onsite
  - Secure all portable tools and equipment in storage units and lock for safety and security
  - Safely secure any material left onsite and exposed
- Turn off all temporary electrical wiring to prevent damage and/or exposure to live electrical potential during the emergency
- Tape or protect windows with minimum 1/2' plywood
- Ensure all tie-downs are in place and used

Follow all instructions from Emergency Management Office and State/Local Officials and Deputies responsible for the coordination and evacuation of individuals located within the Hurricane Warning/Watch region.

## **Q. WORKPLACE VIOLENCE**

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Intervention is the key to workplace violence situations. Employees shall report any pattern of behavior and attitude that causes concern to their supervisor and/or the Safety Director. The Safety Director will work with the appropriate entities to discuss procedures for diffusing the situation. For crimes in

# EMERGENCY ACTION PLAN

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progress, violent incidents or specific threats of imminent violence employees will:

- Get to safety as quickly as possible.
- Immediately contact emergency services as provided in the Emergency Reporting and Notification Procedures. If able, use a phone out of sight and/or hearing of the individual or ask another to call for help.
- Not attempt to intervene physically or deal with the situation himself/herself. It is critical that law enforcement take charge of any incident that can or does involve physical harm.
- When making the call, stay on the line and provide the following information
  - Location
  - Your name
  - Nature of the problem
  - Number of individuals involved
  - Whether or not weapons are involved

## Hostage Situation

If involved in a hostage situation, take the following actions:

- Immediately contact emergency services as provided in the Emergency Reporting and Notification procedures., if possible. Supply as many details as possible including number of persons involved, description of hostage takers, weapons displayed, threats made, etc.
- Do what they are told without argument.
- Not attempt to negotiate or argue with a hostage taker.
- Try to get others to remain calm. Tell them to do what they are told.

## Civil Disturbance

Any indication of a civil disturbance such as a demonstration, picketing or riot shall be reported immediately to the Safety Director.

- Jobsite/building personnel should:
  - remain in the building and/or on the jobsite away from the disturbance area, unless instructed to do otherwise,
  - stay away from windows,
  - avoid confrontation with demonstrators, picketers or rioters,
  - leave telephones clear in case contact is necessary.
- It may be necessary to lock exterior doors.
- Safety Director will arrange for escorts to enter or exit the buildings/jobsites as needed.

# FALL PROTECTION

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## A. PURPOSE AND SCOPE

Fall hazards are a major concern in our industry. This program has been developed to ensure that all employees are protected from these hazards while working on elevated surfaces and to comply with OSHA 29 CFR 1926 Subpart M Fall Protection.

## B. RESPONSIBILITIES

### Safety Director

The Safety Director will:

- Coordinate the type of fall protection (fixed protection systems or PPE) to be used on the jobsite with the general contractor/host/construction manager.
- Will ensure that all fall protection equipment meets required specifications for the intended use.
- Ensure that all personnel required to use fall protection equipment have been medically qualified and trained in the proper use of the equipment.

### Supervisors

Supervisors will:

- Ensure that personal fall protection systems are used where required.
- Will inspect fall protection equipment on a weekly basis.

### Employees

Employees will:

- Be trained to recognize fall hazards and the procedures to minimize these hazards.
- Use personal fall protection equipment as trained.
- Inspect their fall protection equipment before each use.

- Inform their supervisors of any conditions that may hinder their ability to work at heights or use personal fall arrest equipment.

## C. INSTALLATION AND USE OF EQUIPMENT

All equipment will be installed and used in accordance with OSHA standards and the manufacturer's instructions.

The installation and use of equipment will be inspected and approved by a competent person. All equipment will be used only for the application for which it was designed.

## D. FALL PROTECTION EMERGENCIES

Potential fall emergencies will be evaluated.

An equipment inventory will be conducted by the supervisor before each job where fall protection is required.

The supervisor will ensure that fall protection equipment or tools are available for post-fall recovery (ladders, scaffolds, man-lifts etc.), emergency phone numbers are posted and first-aid equipment and personnel are prepared to respond to a fall emergency.

## E. TRAINING

Employees will receive annual training on the use of fall protection. Training will include information on the use of fall protection equipment, inspection, installation and maintenance, OSHA Safety Standards and company procedures. Training will consist of toolbox talks and hands-on demonstrations. Re-training will be provided as needed.

# FALL PROTECTION

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Topics to be included:

- Nature of the fall hazards employees may be exposed to.
- Correct procedures for erecting, maintaining, disassembling and inspecting fall protection systems.
- Use and operation of controlled access zones, guardrails, personal fall arrest systems, warning lines and safety monitoring systems.
- Role of each employee in the Safety Monitoring System (if one is used).
- Correct procedures for equipment and materials handling and storage and erection of overhead protection.
- Requirements of the OSHA Fall Protection Standard, 29 CFR 1926, Subpart M.

## **F. FALL PROTECTION SYSTEMS**

### Covers

- All covers shall be secured to prevent accidental displacement.
- Covers shall be color-coded or bear the markings “HOLE” or “COVER”.
- Covers located in roadways shall be able to support twice the axle load of the largest vehicle that might cross them.
- Covers shall be able to support twice the weight of employees, equipment and materials that might cross them.

### Guardrail Systems

Guardrail systems shall be erected at unprotected edges, ramps, runways or holes where it is determined by the Safety Director that erecting such systems will not cause an increased hazard to employees. The following specifications will be followed in the erection of guardrail systems.

Toprails shall be:

- At least  $\frac{1}{4}$  inch in diameter (steel or plastic banding is unacceptable)
- Flagged every six (6) feet or less with a high visibility material if wire rope is used
- Inspected by the Safety Director as frequently as necessary to ensure strength and stability
- Placed forty-two (42) inches (plus or minus three (3) inches) above the walking/working level
- Adjusted to accommodate the height of stilts, if they are in use.

Midrails, screens, mesh, intermediate vertical members and solid panels shall be erected in accordance with the OSHA Fall Protection Standard.

Gates or removable guardrail sections shall be placed across openings of hoisting areas or holes when they are not in use to prevent access.

### Personal Fall Arrest Systems

Personal fall arrest systems shall be issued to and used by employees as determined by the Safety Director and may consist of anchorage, connectors, body harness, deceleration device, lifeline or suitable combinations.

Personal fall arrest systems shall:

- Limit the maximum arresting force to 1800 pounds
- Be rigged so an employee cannot free fall more than six (6) feet or contact any lower level
- Bring an employee to a complete stop and limit the maximum deceleration distance traveled to three and a half ( $3\frac{1}{2}$ ) feet
- Be strong enough to withstand twice the potential

# FALL PROTECTION

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impact energy of an employee free falling six (6) feet (or the free fall distance permitted by the system, whichever is less)

- Be inspected prior to each use for damage and deterioration
- Be removed from service if any damaged components are detected.

All components of a fall arrest system shall meet the specifications of the OSHA Fall Protection Standard, and shall be used in accordance with the manufacturer's instructions.

- The use of non-locking snaphooks is prohibited.
- Dee-rings and locking snaphooks shall:
- Have a minimum tensile strength of 5000 pounds
- Be proof-tested to a minimum tensile load of 3600 pounds without cracking, breaking or suffering permanent deformation.
- Lifelines shall be:
  - Designed, installed and used under the supervision of the Safety Director
  - Protected against cuts and abrasions
  - Equipped with horizontal lifeline connection devices capable of locking in both directions on the lifeline when used on suspended scaffolds or similar work platforms that have horizontal lifelines that may become vertical lifelines.
- Self-retracting lifelines and lanyards must have ropes and straps (webbing) made of synthetic fibers, and shall:
  - Sustain a minimum tensile load of 3600 pounds if they automatically limit free fall distance to two (2) feet; or
  - Must sustain a minimum tensile load of 5000

pounds where they do not limit free fall to 2', (includes ripstitch, tearing, and deforming lanyards).

- Anchorages must support at least 5000 pounds per person attached and shall be:
  - Designed, installed, and used under the supervision of the Safety Director
  - Capable of supporting twice the weight expected to be imposed on it
  - Independent of any anchorage used to support or suspend platforms.

## **Safety Monitoring Systems**

In situations when no other fall protection has been implemented, the Safety Monitor shall monitor the safety of employees in these work areas. The Safety Monitor shall be:

- Competent in the recognition of fall hazards
- Capable of warning workers of fall hazard dangers
- Operating on the same walking/working surfaces as the employees and able to see them
- Close enough to work operations to communicate orally with employees
- Free of other job duties that might distract them from the monitoring function.

No employees other than those engaged in the work being performed under the Safety Monitoring System shall be allowed in the area. All employees under a Safety Monitoring System are required to promptly comply with the fall hazard warnings of the Safety Monitor.

## **Warning Line Systems**

Warning line systems consisting of supporting stanchions and ropes, wires or chains shall be erected around all sides of roof work areas.

## FALL PROTECTION

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- Lines shall be flagged at no more than six (6) foot intervals with high-visibility materials.
- The lowest point of the line (including sag) shall be between 34 and 39 inches from the walking/working surface.
- Stanchions of warning line systems shall be capable of resisting at least 16 pounds of force.
- Ropes, wires or chains must have minimum tensile strength of 500 pounds.
- Warning line systems shall be erected at least six (6) feet from the edge, except in areas where mechanical equipment is in use. When mechanical equipment is in use, warning line systems shall be erected at least six (6) feet from the parallel edge and at least ten (10) feet from the perpendicular edge.

# FIRE PROTECTION/PREVENTION PROGRAM

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## A. PURPOSE AND SCOPE

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The goal of the Fire Protection program is to establish safety rules regarding the prevention and response to workplace fires. This written program works to create and maintain a safe work environment as required in 29 CFR 1926 Subpart F as well as 1926.50 (First Aid), 1926.65 (Hazardous waste/emergency response) and 1926.35 (Emergency action plans).

## B. RESPONSIBILITIES

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### Safety Director

The Safety Director will:

- Develop, implement and administer a site-specific fire prevention and protection program that will cover all jobsite offices and storage trailers, temporary warehousing and material laydown areas, vehicles and mobile equipment and work activities.
- Ensure firefighting equipment is installed and maintained at all jobsites, in vehicles and work areas.
- Identify fire hazards at the jobsite.
- Conduct fire safety training sessions that will include actual and potential fire hazards, causes of workplace fires and the procedure for work area inspections and hazard elimination or control.

### Supervisor

The Supervisor will:

- Take prompt corrective actions whenever unsafe fire conditions or acts are identified.
- Inspect entire work area to ensure flammables are stored correctly and adequate fire protection is provided in all areas.

## Employees

Employees will:

- Comply with all site fire prevention rules including, but not limited to, proper flammable storage.
- Know the emergency telephone number to call in case of a fire emergency.
- Report all fires immediately by way of telephone or radio and notify other nearby workers.
- Be trained to recognize potential fire hazards and the location and operation of the fire extinguisher that is located on the jobsite.
- Maintain a fire-safe work area.

## C. FIRE EMERGENCY NOTIFICATION PROCEDURES

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Employees will be trained in the established emergency notification procedures.

Emergency telephone numbers will be posted within each jobsite trailer that is equipped with a telephone as well as other jobsite locations such as the material laydown areas, vehicles and mobile equipment refueling areas, personnel change trailers and work areas.

All employees will immediately report all fires by calling the project's emergency phone number.

Employees will report a fire emergency on a site radio when no telephone is located nearby.

## D. PORTABLE FIRE EXTINGUISHERS

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Portable Fire Extinguishers rated for the potential hazard will be installed, maintained and inspected in accordance with 29 CFR 1926 Subpart F.

# FIRE PROTECTION/PREVENTION PROGRAM

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Portable fire extinguishers will be installed on company trucks and mobile equipment.

All portable fire extinguishers will have an attached monthly inspection tag that indicates the fire extinguisher is ready to use and fully charged.

When a portable fire extinguisher has been discharged or found to be defective it is tagged and immediately removed from service and replaced with a fully charged extinguisher of the same type and size.

All employees that may be required to use a fire extinguisher will be trained to use the extinguisher on the type that is used on the jobsite.

Requirements in ANSI A10.10 “Safety Requirements for Temporary and Portable Space Heating Devices and Equipment Used in the Construction Industry” will be used.

## ***F. TRANSPORTATION AND STORAGE OF FLAMMABLE LIQUIDS***

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Flammable liquids will be transported only in containers approved by a national testing laboratory. These containers will be clearly labeled to identify the contents.

Flammable liquids will be transported on the jobsite in FM approved or UL listed metal safety cans with self-closing openings.

Drums, pails or other containers that contain or have contained a flammable liquid will be kept closed except when contents are removed or transferred.

OSHA Standard 1926.152(b) that covers indoor storage of flammable and combustible liquids will be fully complied with.

Temporary/portable storage tanks of 1,000 gallon maximum size will be placed at least 75 feet from buildings, construction equipment, parking lots, etc. to minimize exposure to fire involving the tank per NFPA recommendations.

Storage tanks will be placed in a lined dike to contain spills equal to the storage capacity of the tank.

Containers from which flammable liquids are dispensed are to be electrically grounded and will be equipped with bonding wires to complete the grounding with the vessel receiving the liquid.

## ***E. TEMPORARY HEATING DEVICES***

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Only temporary heating devices approved by the Safety Director will be used on the jobsite. These will be operated by electricity, propane gas, LPG or steam.

The use of kerosene, wood, or oil-fired salamanders are not permitted inside temporary buildings.

Stoves and heaters will be properly vented and all vent pipes must have tight joints and be well supported.

Each heating device will have the following information permanently affixed to the unit:

- Clearances
- Ventilation
- Fuel type and input pressure
- Lighting, extinguishing and relighting instructions
- Electrical power supply characteristics.

## FIRE PROTECTION/PREVENTION PROGRAM

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Smoking or open flames will not be permitted in flammable liquid storage areas. Signs prohibiting smoking must be posted.

### **G. TRAINING**

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Employee training will include, but is not limited to, the following:

- The ability to identify the causes of workplace fires
- The procedures for workplace inspections to eliminate or control fire hazards
- Identify and describe the three classes of fires and which type of fire extinguisher that should be selected to fight each class.
- Describe actions that should be taken in the event of a fire, the sounding of a fire alarm and what to do when responding to a fire victim.
- Demonstrate competence in the use of a portable fire extinguisher and how to fight a fire. Remember the “PASS” method, “P” - Pull, “A” - Aim (at the base), “S” – Squeeze (the trigger or handle) and “S”  
– Sweep (Side to Side).

# Hazard Communication

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## A. PURPOSE AND SCOPE

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The goal of this program is to ensure that all employees receive adequate information relevant to the possible hazards that may be involved with the various hazardous substances used in the Company's operations and processes.

The following program outlines how this objective will be accomplished. This policy covers all potential workplace exposures involving hazardous substances as defined by federal (29 CFR 1910.1200/1926.59), state and local regulations.

## B. RESPONSIBILITIES

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### Safety Director

The Safety Director will:

- Monitor this Hazard Communication program. Questions regarding this program and any information associated with it should be directed to the Safety Director.

### Employees

Employees will:

- Follow all safety procedures described in this program, consult the written program and SDSs as needed for additional safety precautions, and report all chemical container labeling issues used at the jobsite. All questions should be referred to the Safety Director or Supervisor.

## C. HAZARD CLASSIFICATIONS

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This Company does not intend to evaluate any of the hazardous substances purchased from suppliers and/or manufacturers, but have chosen to rely upon the

evaluation performed by the suppliers or by the manufacturers of the substances to satisfy the requirements for hazard classification.

Chemicals can cause two types of hazards:  
Physical and Health

## D. WRITTEN PROGRAM

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Every company must develop a written hazard communication program that complies with the provisions of 1910.1200(e)

## E. LABELS AND OTHER FORMS OR WARNING

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No container or hazardous substance will be released for use unless the container is correctly labeled and the label is legible in English.

All chemicals in bags, drums, barrels, bottles, boxes, cans, cylinders, reaction vessels, storage tanks, or the like will be checked by the receiving department to ensure the manufacturer's label is intact, legible in English, and has not been damaged in any manner during shipment. Any containers found to have damaged labels will be quarantined until a new label has been installed.

All secondary containers shall be labeled. The information must include details of all chemicals that are in the referenced container.

The label must contain a Product Identifier, a Signal Word, a Hazard Statement(s), Pictogram(s), Precautionary Statement(s) and the name, address and telephone number of the chemical manufacturer, importer other responsible party.

# Hazard Communication

There are two Signal Words to be used:

- "Danger" – Most Severe Hazard
- "Warning" – Less severe than Danger

Pictograms must be in the shape of a square set at a point and have a black hazard symbol on a white background within a red frame that represent a distinct hazard. OSHA has designated nine pictograms under this standard.

## **HCS PICTOGRAMS AND HAZARDS**

Health Hazard	Flame	Exclamation Mark
 <ul style="list-style-type: none"><li>▪ Carcinogen</li><li>▪ Mutagenicity</li><li>▪ Reproductive Toxicity</li><li>▪ Respiratory Sensitizer</li><li>▪ Target Organ Toxicity</li><li>▪ Aspiration Toxicity</li></ul>	 <ul style="list-style-type: none"><li>▪ Flammables</li><li>▪ Pyrophorics</li><li>▪ Self-Heating</li><li>▪ Emits Flammable Gas</li><li>▪ Self-Reactives</li><li>▪ Organic Peroxides</li></ul>	 <ul style="list-style-type: none"><li>▪ Irritant (skin and eye)</li><li>▪ Skin Sensitizer</li><li>▪ Acute Toxicity</li><li>▪ Narcotic Effects</li><li>▪ Respiratory Tract Irritant</li><li>▪ Hazardous to Ozone Layer (Non-Mandatory)</li></ul>
 <ul style="list-style-type: none"><li>▪ Gases Under Pressure</li></ul>	 <ul style="list-style-type: none"><li>▪ Skin Corrosion/Burns</li><li>▪ Eye Damage</li><li>▪ Corrosive to Metals</li></ul>	 <ul style="list-style-type: none"><li>▪ Explosives</li><li>▪ Self-Reactives</li><li>▪ Organic Peroxides</li></ul>
 <ul style="list-style-type: none"><li>▪ Oxidizers</li></ul>	 <ul style="list-style-type: none"><li>▪ Aquatic Toxicity</li></ul>	 <ul style="list-style-type: none"><li>▪ Acute Toxicity (fatal or toxic)</li></ul>

# Hazard Communication

## SAMPLE LABEL

- **PRODUCT IDENTIFIER**
  - CODE \_\_\_\_\_
  - Product Name \_\_\_\_\_
- **SUPPLIER IDENTIFICATION**
  - Company Name \_\_\_\_\_  
Street Address \_\_\_\_\_  
City \_\_\_\_\_ State \_\_\_\_\_  
Postal Code \_\_\_\_\_ Country \_\_\_\_\_  
Emergency Phone Number \_\_\_\_\_
- **PRECAUTIONARY STATEMENTS**
  - Keep container tightly closed. Store in cool, well ventilated place that is locked.  
Keep away from heat/sparks/open flame. No smoking.  
Only use non-sparking tools.  
Use explosion-proof electrical equipment.  
Take precautionary measure against static discharge.  
Ground and bond container and receiving equipment.  
Do not breathe vapors.  
Wear Protective gloves.  
Do not eat, drink or smoke when using this product.  
Wash hands thoroughly after handling.  
Dispose of in accordance with local, regional, national, international regulations as specified.
  - **In Case of Fire:** use dry chemical (BC) or Carbon dioxide (CO<sub>2</sub>) fire extinguisher to extinguish.
  - **First Aid**  
If exposed call Poison Center.  
If on skin (on hair): Take off immediately any contaminated clothing. Rinse skin with water.
- **HAZARD PICTOGRAMS**
- **SIGNAL WORD**
  - Danger
- **HAZARD STATEMENT**
  - Highly flammable liquid and vapor.  
May cause liver and kidney damage.
- **SUPPLEMENTAL INFORMATION**
  - Directions for use  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_
  - Fill weight: \_\_\_\_\_ Lot Number \_\_\_\_\_  
Gross weight: \_\_\_\_\_ Fill Date: \_\_\_\_\_  
Expiration Date: \_\_\_\_\_

## F. SAFETY DATA SHEETS (SDS)

Safety Data Sheets must comply with OSHA 1910.1200(g) and 1910.1200 Appendix D to be considered in compliance

A master SDS file is maintained at the Company's headquarters. A job specific SDS file is maintained at each work area or jobsite. These Safety Data Sheets are available to all employees, at all times.

The Safety Director or a designee will be responsible for reviewing all incoming SDSs for new and significant health and safety information. The

Company will ensure that any new information is passed on to the employees involved.

The Safety Director or designee will review all incoming SDSs for completeness. If any SDS is missing or obviously incomplete, a new SDS will be requested from the manufacturer or distributor. OSHA is to be notified if the manufacturer or distributor will not supply the SDS or if it is not received within 30 days from request. Any new information will be passed on to the employees involved.

New materials will not be introduced into the work area until a SDS has been received.

# Hazard Communication

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The purchasing department will make it an ongoing part of its function to obtain SDSs for all new materials when they are first ordered.

The Safety Director or designee shall coordinate with other employers on the job site to make sure all SDSs are obtained, distributed and communicated.

## **G. LIST OF HAZARDOUS SUBSTANCES**

---

A chemical inventory is compiled, periodically reviewed and updated as necessary. This list is based on materials defined in any applicable federal and state standards.

The inventory list is maintained on the job site along with the SDS information.

## **H. EMPLOYEE INFORMATION AND TRAINING**

---

A copy of the program or employee HAZCOM handbook will be given to all employees during the orientation meeting. Subsequent to this, the program will be available from supervisors or the Company office.

All employees must participate in an orientation meeting for information and training on the following items prior to starting work with hazardous substances:

- An overview of the requirements of the Hazard Communication Standard, including their rights under this regulation.
- Information on where hazardous substances are present in their work areas.
- Information regarding the use of hazardous substances in their specific work areas.
- The location and availability of the written Hazard Communication Program.
- The physical and health hazards of all substances in use.

- Methods and observation techniques used to determine the presence or release of hazardous substances in the work area.
- The controls, safe work practices and personal protective equipment that are available for protection against possible exposure.
- Emergency and first-aid procedures to follow if employees are exposed to hazardous substances.
- How to read container labels and Safety Data Sheets (SDSs) to obtain the appropriate hazard information.
- Refresher training will be conducted annually.
- When new substances are introduced into the jobsite or workplace the Safety Director will review the above items with affected employees as related to the new materials.

The Safety Director will relay all the above information to new employees who will be working with hazardous substances, prior to their starting work.

## **I. NON-ROUTINE TASKS**

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Infrequently, employees may be required to perform non-routine tasks that involve the use of hazardous substances. Prior to starting work on such projects, each involved employee will be given information by his or her supervisor about hazards to which they may be exposed during such an activity.

This information will include:

- The specific hazards caused by the substance
- Protective and safety measures that must be utilized
- The measures the Company has taken to lessen the hazards, including special ventilation, respirators, and the presence of another employee, air sample readings, and emergency procedures.

# Housekeeping

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## A. PURPOSE AND SCOPE

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The goal of housekeeping is to create and maintain all company site offices and storage trailers, storage areas, fabrication shops and laydown yards and construction work areas in a clean and orderly condition. This will help create a hazard-free work environment. This written program works to create and maintain a safe work environment as required in 29CFR 1926.25.

## B. RESPONSIBILITIES

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### Safety Director

The Safety Director will:

- Develop a plan to maintain good housekeeping at the beginning of the job.
- Ensure this plan is carefully supervised and followed through to the final clean-up.

### Supervisor

The Supervisor will:

- Make certain that trash and scrap metal containers are provided and that these containers are emptied as often as needed to maintain an orderly work environment.
- Ensure that garbage and other wastes will be disposed of at frequent and regular intervals.

### Employees

Employees will:

- Share the responsibility of maintaining a clean jobsite.
- Pick up their own scrap materials, tools, electrical cords, etc. and place them in the proper places as work progresses.

## C. ACTION DETAILS

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The housekeeping plan will be developed at the beginning of a job and carefully supervised and followed through until the final jobsite clean-up.

Individual containers will be provided for the different types of debris and trash that is generated at the jobsite.

Debris and trash will be removed from the jobsite as often as is necessary to maintain orderliness.

A rush schedule cannot be used by this company or any subcontractor and will not be allowed as an excuse to allow poor housekeeping habits.

Housekeeping is a shared responsibility that can't be ignored. All employees at a jobsite will pick up after themselves and any trash or debris they generate.

Dirty light fixtures reduce essential light levels. Clean light fixtures can improve lighting efficiency significantly and will be kept in this condition.

Aisles will be wide enough to accommodate people and vehicles comfortably and safely. Aisle space allows for the movement of people, products and materials.

Aisles and stairways will be kept clear. They will not be used for temporary "overflow" or "bottleneck" storage. Adequate lighting will be maintained in stairways and aisles.

Tools require suitable fixtures with marked locations to provide orderly arrangement, both in the tool room and near the work bench. They will be returned promptly after each use to reduce the chance of them being misplaced or lost.

Employees will regularly inspect, clean and repair all tools and take any damaged or worn tools out of service.

## Housekeeping

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A regular collection, grading and sorting of scrap will be conducted. Contract Documents will determine who has ownership of any material that is demoed or removed. No Employee is allowed to remove or take possession of any material removed during demolition or renovation without expressed written consent of the owner and/or the contractor.

Scrap containers will be kept near where the waste is produced to encourage orderly waste disposal and make collection easier.

# Ladders and Stairways

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## A. PURPOSE AND SCOPE

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The goal of the Ladders and Stairways program is to establish safety rules regarding use, inspection and maintenance of ladders and stairways. This written program works to create and maintain a safe work environment as required in 29 CFR Subpart X.

## B. RESPONSIBILITIES

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### Safety Director

The Safety Director will:

- Ensure training is provided to employees on ladder selection, inspection and maintenance as well as the recognition of hazards associated with ladder use.
- Ensure training is provided to employees on stairway construction, use and maintenance as well as the recognition of hazards associated with stairway use.
- Ensure all ladders used by employees are safe and in good operating condition.

### Supervisor

The Supervisor will:

- Ensure ladders are used safely and as they are designed to be used.
- Ensure that job-made ladders are constructed and used safely.

### Employees

Employees will:

- Inspect ladders prior to using them. If the ladder is defective, it will be tagged and removed from service.
- Receive training on the selection, inspection and maintenance of ladders and the hazards associated with their use.

- Receive training on stairway construction, use and maintenance and the hazards associated with their use.
- Use ladders safely and as they are designed to be used.

## C. ACTION DETAILS

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- Ladders that are found to be in any way defective or damaged are immediately tagged and taken out of service. Ladders must be destroyed if they cannot be repaired to manufacturer's specifications. No ladders may be taken home by any employee, defective or otherwise for personal use.
- A stairway or ladder must be provided if there is a break in elevation of 19" or more. Side rails on ex-tension ladders must extend no less than 36 inches above a landing. If this is not practical, grab rails must be installed.
- Ladders must not be placed in passageways, doorways, driveways or any location where they may be displaced by activities being conducted on any other work, unless protected by barricades or guards.
- Metal ladders must not be used for electrical work or where they may contact electrical conductors.
- Employees must always face the ladder when going up or down and maintain three-point contact.
- Self-supporting ladders must generally be rated at least four times the maximum intended load.
- Stairways, such as those going into the job trailer, with four or more risers or rising more than 30 inches will be equipped with at least one handrail and one stair rail system along each unprotected side or edge.
- Treads for temporary service will be made of wood or other solid material and will be installed the full width and depth of the stair. Temporary use of Pan Stairs may only be done if the stairs are filled with wood or solid material at least to the top of the pan.

## Ladders and Stairways

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- All parts of stairways will be free of hazardous projections, such as protruding nails.
- Spiral stairs should not be used on a construction site.
- Stairway systems and ladders and their use must comply with 29 CFR 1926 Subpart X.
- Understand the regulations governing the use of ladders and stairs.
- Inspection of ladders and the tagging for those found to be damaged or defective.
- Inspection of stairways for use and maintenance.

### **D. TRAINING**

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Employee training will include, but is not limited to, the following:

- Identification of the hazards associated with ladders and stairs.
- Use of the equipment safely.

# Machine and Tool

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## A. PURPOSE AND SCOPE

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The goal of the machine and tool program is to reduce the number of tool related injuries. This can be accomplished by using the correct tool, using that tool correctly and proper tool maintenance. The following program outlines how we will accomplish this objective. This policy covers all potential workplace exposures involving tools and machines as defined by 29 CFR 1926 Subpart I and 29CFR 1910 Subparts O and P.

## B. RESPONSIBILITIES

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### Safety Director

The Safety Director will:

- Will ensure all employees are trained on the proper use of hand and power tools and never assume “everybody knows how”.
- Designate proper storage facilities for all tools in the tool room or on the jobsite.

### Supervisor

The Supervisor will:

- Ensure any damaged or defective hand or power tools are immediately tagged and removed from service.
- Ensure that tools are returned to the designated storage facilities when not in use.
- Inspect hand and power tools periodically.
- Only allow those employees certified in the use of a Powder Actuated Tool to operate the tool for which they are certified.

### Employees

Employees will:

- Use the appropriate PPE when using hand and power tools.
- Only use hand and power tools for their designed purpose.

- Inspect hand and power tools at the beginning of their shift for any defects. If any defects are found, the tool will be tagged and removed from service.
- Use guards on power tools whenever they are in place.
- Use Power Actuated tools only if certified to use that model of tool.

## C. TRAINING

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To ensure the safety of all employees, they will be trained in the proper use of hand and power tools. This training will include but not be limited to:

- Training employees to select the correct tool for a job
- Tool inspection and tagging procedures of damaged tools
- Choosing the appropriate PPE.

# Material Handling

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## A. PURPOSE AND SCOPE

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The goal of the Material Handling Program is to reduce the number of material handling injuries and to increase efficiency. This can be accomplished by minimizing material handling by combining or eliminating operations.

This written program works to create and maintain a safe work environment as required by 29 CFR 1926 Subparts H, O, and CC.

## B. RESPONSIBILITIES

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### Safety Director

The Safety Director will:

- Determine mechanical means for moving materials when possible in order to avoid injuries such as muscle pulls, strains and sprains.
- Have cranes, derricks, hoists, powered industrial trucks and conveyors handle loads too heavy or bulky to handle manually.
- Ensure required inspections are performed and documentation maintained for all cranes and derricks.
- Ensure that cranes and derricks are operated by competent persons.
- Ensure protection is made available from falling hazards.
- Ensure employee training is provided on the selection, inspection, use and maintenance of material handling equipment.
- Ensure that before assigning employees to jobs that require heavy and/ or frequent lifting, they have been cleared as physically able to perform these tasks.

### Supervisor

The Supervisor will:

- Plan for the receipt, shipment and/ or storage of materials.
- Ensure materials are kept at a proper distance from hoist-ways, inside floor openings and exterior walls.
- Ensure materials are stacked according to load limits, keeping passageways clear and arranged to prevent sliding, falling or collapse.
- Ensure that when using any manual handling equipment employees will follow all manufacturers' instructions.

### Employees

Employees will:

- Be trained in the selection, inspection, use and maintenance of material handling equipment.
- Use mechanical means to move material whenever possible.
- Follow manufacturers' instructions when using manual material handling equipment.
- Be trained to recognize hazards and to protect themselves and prevent accidents.
- Recognize and respond to signs, signals, barricades and other forms of warning found at the jobsite.

## C. MATERIAL HANDLING ACTIONS

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### Handling and Storage

If a load is too large for one employee, two are to be assigned to the task or material handling equipment supplied.

PPE, such as gloves, hand leathers or other hand protectors, are to be used to prevent hand injuries.

# Material Handling

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Maximum safe floor loads are to be posted and never exceeded.

Materials are to be kept clear of passageways, properly sorted and prevented from sliding, falling or collapsing.

Nails are to be bent or removed before stacking lumber for disposal.

Metal banding or packaging is not to be removed until the material is ready to be used.

Lumber piles will not exceed 20 feet in height (or 16 feet for manually handled lumber).

## Slings

Rigging is to be inspected prior to use on each shift and as needed during a shift.

Defective rigging and slings will be removed from service, tagged and disposed of.

The rigging's load capacity is never to be exceeded.

When selecting a sling, consider the size and type of load, as well as environmental conditions.

## Safe Lifting Practices

The weight and balance of the load must be correctly determined before lifting.

Before lifting make certain the sling is properly secured and that the load is not lagged, clamped or bolted to the floor.

The angle of the sling should be kept as close to 90° (vertical) as possible.

Never allow the load to drag along the ground.

Watch a load at all times while it is in motion.

Never allow more than one person to control the lift or to give signals except to warn of hazards.

Once the lift is completed, the sling should be cleaned, inspected for damage and stored in a clean, dry place (hung on walls or racks).

## Back Safety When Lifting

To help prevent back injuries that occurs from lifting; the proper lift technique involves the following steps:

1. Get close to the object. Place one foot along-side the object in the direction you will be carrying the object. Place the other foot behind the object. Feet should be securely planted with the object between your knees.
2. Bend at the knees to go down to the object.
3. Keep your back straight. If you maintain your pelvis in a level stance this will help to keep your back straight and prevent twisting.
4. Get a secure grip on the object.
5. Contract or tighten your diaphragm and stomach muscles. Maintain this position during the lift.
6. Lift the object in a steady motion with your legs keeping the object close to your body. Try not to jerk when you lift.

## **E. TRAINING**

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Employee training will include, but is not limited to, the following:

- Proper lifting techniques to help minimize muscle, back and hernia injuries

## Material Handling

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- How to recognize hazards and to protect themselves and prevent accidents
- Selection, inspection, use and maintenance of material handling equipment
- How to properly position and stack materials
- Recognition of and response to signs, signals, barricades and other forms of warning found at a jobsite.

## A. PURPOSE AND SCOPE

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The goal of the Medical/ First Aid program is to develop site-specific medical and first aid procedures that will provide employees with timely and reliable emergency medical care and first aid treatment. This written program works to create and maintain a safe work environment as required in 29 CFR 1926.23 First aid and medical attention and 1926.50 Medical services and first aid, as well as those referenced in 1926.950 regarding first aid.

## B. RESPONSIBILITIES

---

### Safety Director

The Safety Director will:

- Formulate and implement the company's site-specific medical and first-aid program.
- Ensure that trained individuals are on site that can provide basic first-aid treatment for non-serious injuries and illnesses and emergency treatment for serious injuries or illnesses until the employee can be placed under the care of Emergency Medical Services.
- Prepare and maintain current and complete company medical and first aid records and logs in compliance with OSHA and State Workers' Compensation Commission.
- Ensure that first aid equipment and supplies are properly maintained.

### Supervisor

The Supervisor will:

- Arrange for employees to attend basic and advanced first-aid and CPR training.
- Provide appropriate first-aid equipment and supplies to meet the requirements of the work and the maximum number of employees on the jobsite.

- Assign light-duty work only after receiving the approval of the treating physician.

### Employees

Employees will:

- Report an emergency condition (medical, fire, spill etc.) according to the company policy.
- Know the location of on-site first aid treatment facilities.
- Know the location of first-aid kits, stretchers, eye wash stations and showers, fire extinguishers and blankets, chemical spill kits, site evacuation routes and emergency procedures.
- Immediately report work-related personal injuries or illnesses to their supervisor.

## C. MEDICAL/ FIRST AID ACTIONS

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In addition to receiving First-aid, (FA) and Basic Life Support, (BLS) training including Cardiopulmonary Resuscitation, (CPR) and the use of an Automatic External Defibrillator, (AED); employees will follow company procedures when responding to a jobsite injury. This procedure is in place to help reduce the occurrence of injuries to employees rushing in to assist injured coworkers. By following these steps the injured will be taken care of with no additional injuries.

1. Survey the scene of the accident
  - a. Look at the victim, but also the entire scene of the accident
  - b. Check for fallen wires, toxic fumes, fire or any other hazards
2. Do a primary survey of the victim
  - a. Is the victim in immediate danger? If not leave them where they are. If they must be moved do so as trained in basic first aid.

- b. If victim is conscious ask how the injury occurred and the extent of the injuries.
  - c. If the victim is unconscious, check for breathing and pulse. Administer CPR and get the AED if one is available. Provide mouth to mouth resuscitation and/ or CPR if needed.
3. Call Emergency Medical Services, (EMS)
- a. Depending on geographic location, this may be 911 or you may need to dial a local number.
  - b. Give a thorough description of the accident scene, the victim's condition and what first-aid is being given. Provide the location of the victim to the authorities and any special instructions that EMS responders may need.

### **D. TRAINING**

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In addition to any basic or advanced first aid and BLS training given to employees, they will also receive training to include, but not limited to:

- Responding to emergency situations of the jobsite
- Correctly transmitting information involving a medical emergency to emergency personnel
- Knowing the correct number to call when accessing emergency personnel; If 911 is available or there is a local number.
- Blood-borne Pathogen Training if they are a First Responder or there is a possible exposure with their job duties and responsibilities.

# Personal Protective Equipment

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## 14.0 GENERAL

### A. PURPOSE AND SCOPE

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The goal of the Personal Protective Equipment (PPE) program is to protect all employees exposed to various workplace hazards. This can be accomplished through pre-planning and careful implementation of all applicable federal, state and local safety and health regulations/ standards.

This written program works to create and maintain a safe work environment as required by 29 CFR 1910 Subpart E and 29 CFR 1926 Subpart E.

### B. RESPONSIBILITIES

---

#### Safety Director

The Safety Director will:

- Strive to eliminate work site hazards (safety, health or environmental) through modifications to work practices and procedures or by working with the host employer to implement engineering revisions.
- Determine what Personal Protective Equipment (PPE) will be used for the hazards that could not be otherwise eliminated.
- Ensure that employees are trained in the use, care, storage, maintenance and limitations of the PPE to be used at each jobsite.
- Conduct a Jobsite Hazard Assessment to select the appropriate PPE for hazards that are present. This process may rely on information from the host employer on what hazards have been identified, their magnitude and the methods used to control them.

#### Supervisor

The Supervisor will:

- Ensure that company provided or employee-owned protective equipment is appropriate for the task and is properly cleaned, maintained and stored.
- Ensure that employees, who are required to use PPE, use it correctly and consistently.
- Ensure that employee-owned protective equipment meets OSHA standards.

#### Employees

Employees will:

- Be trained in the proper use, cleaning, storage, maintenance and limitations of any protective equipment that will be used at each jobsite.
- Use the appropriate PPE whenever a jobsite hazard is present.

### C. ACTION DETAILS

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#### Electrical PPE

See Electrical Program for PPE assessment and equipment related to electrical hazards.

#### Respiratory PPE

See Respiratory Program Section for PPE assessment and equipment related to respiratory hazards.

#### Hearing PPE

See Hearing Protection Program Section for PPE assessment and equipment related to noise level hazards.

#### General

All employees, while on the jobsite, will wear safety helmets/hard hats, safety glasses with side shields, heavy duty work boots and proper work clothing.

# Personal Protective Equipment

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Specialized PPE will be provided as needed by the employer for employees. This may include, but is not limited to:

- Head protection
- Hearing protection devices
- Fall protection devices
- Hand protection equipment
- Life-lines and harnesses
- Respirators
- Specialty footwear
- Specialty illumination equipment
- Any other specialty equipment or devices required to be safe on the jobsite
  - Rubber insulating gloves and protectors
  - Rubber insulating blankets
  - Rubber insulating line hose
  - Rubber insulating hoods
  - Insulating shields and/or barriers
  - Rubber insulating sleeves, if required
  - Rubber matting for use around an electrical apparatus.

PPE that has been modified in a way that is not supported by the manufacturer or that reduces its effectiveness will be repossessed, repaired or destroyed.

Any PPE that has been previously worn or used will not be reissued to another employee until it has been inspected, repaired, if necessary, according to manufacturers recommendations, cleaned, sterilized and repackaged.

## Employee Compliance and Enforcement

The Supervisor will conduct daily field inspections to ensure employees are wearing all necessary PPE.

All PPE will meet or exceed the applicable requirements of NIOSH, OSHA, ANSI and/or any other applicable agency or standard.

## Employee Safe Work Practices

Employees will follow these safety rules:

- An appropriate hard hat will be worn when there is danger of impact, falling or flying objects or electrical shock
- Impact-resistant safety glasses with side shields will be worn when there is danger of materials striking the eye
- Non-vented safety goggles will be worn if working with materials or chemicals that could damage the eyes
- Face shields will be worn, as needed, to protect the face from flying objects
- Proper shoes or boots will be worn to protect against foot injuries
- Protective clothing, appropriate for the task at hand, will be worn, where specified in the job briefing document.

## D. TRAINING

---

Employee training will include, but not be limited to:

- Recognizing hazards on the jobsite that require PPE
- How to determine the appropriate PPE to avoid potential injuries,
- The correct way to inspect, put on, remove, use, care, store, clean and maintain each piece of PPE, as needed
- The limitations of the PPE employees are required to use.

# Personal Protective Equipment

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## 14.1 RESPIRATORY PROTECTION

### A. PURPOSE AND SCOPE

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This program is developed to comply with 29 CFR 1910.134 and 1926.103 - Respiratory Protection to ensure the protection of employees while using respiratory protection. This program is designed for jobsites where respirators are used on a voluntary basis.

If a hazard assessment or information from the host employer indicates that respirator use is required, this program is not adequate.

### B. RESPONSIBILITIES

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Program Administrator or Safety Director:

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Medical Evaluator's Phone Number:

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#### Program Administrator or Safety Director

The Program Administrator or Safety Director will:

- Implement and operate a periodic evaluation of the Respiratory Protection program.
- Determine when voluntary use of respirators or filtering face pieces (dust masks) can be used.
- Supply respirators and/or dust masks at the request of employees when respirator use is not required, if their use will not create a hazard.
- Be responsible for determining the potential need for respirators at each work location. The Company will rely mainly on hazard assessment information provided by the Host Employer regarding the potential need for respirators.

- Conduct fit tests before voluntary respirator use is permitted. Retesting will be done annually or if there is a physical change that could affect respirator use.
- Train employees to recognize hazards that require respirator use and the maintenance of respirators.

#### Supervisor

The Supervisor will:

- Ensure that employees who use respirators voluntarily are medically fit to do so; as determined by a medical evaluation.

#### Employees

Employees will:

- Use and maintain respirators according to their training.
- Immediately report any medical signs or conditions related to respirator use.
- Be trained on respirator use, care and maintenance.

### C. ACTION DETAILS

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#### Voluntary Use of Respirators and/or Filtering Face Pieces (Dust Masks)

Workers may wear respirators to avoid exposures to hazards or to provide an additional level of comfort and protection, even if the amount of hazardous substance does not exceed the limits set by OSHA standards.

When voluntary use of respirators or filtering face pieces (dust masks) is allowed, the employee agrees to the following requirements:

- The employees will read and comply with the following:

# Personal Protective Equipment

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- Read and follow all instructions provided by the manufacturer on use, maintenance, cleaning and care, and warnings regarding the respirators limitations. Note: If a respirator is used improperly or is not kept clean, the respirator itself can become a hazard to you.
  - Choose respirators certified for use to protect against the contaminant of concern. NIOSH, the National Institute for Occupational Safety and Health of the U.S. Department of Health and Human Services, certifies respirators. A label or statement of certification should appear on the respirator or respirator packaging. It will tell you what the respirator is designed for and the level of protection it provides.
  - Not wear respirators into atmospheres containing contaminants for which the respirator is not designed to protect against. For example, a respirator designed to filter dust particles will not protect against gases, vapors, or very small solid particles of fumes or smoke.
  - Keep track of the assigned respirator so that you do not mistakenly use someone else's respirator.
  - Be medically evaluated prior to respirator use.
  - Be responsible for properly cleaning, storing and maintaining their respirators.
- The employee reports medical signs or conditions related to respirator use
  - At the request of a supervisor, Physician or Licensed Health Care professional (PLHCP) or a respirator program administrator
  - When observations or information indicate a need for an evaluation
  - When a change in the workplace conditions increase the physiological burden on an employee

**Exception:** This does not apply to an employee whose only use of respirators involves the **voluntary use of filtering face pieces (dust masks)**.

Medical evaluations will be kept on file in personnel records and by the medical evaluator.

## Respirator Selection

Respirators will be selected based on Hazard Assessment that are NIOSH-certified and used in accordance with the conditions of certification. A representative number of respirator models and sizes will be available to ensure that employees will be able to select a comfortable, properly fitted respirator.

## Fit Testing

Note: this is an option that can be selected by the Company.

All employees wearing a tight fitting face piece respirator must pass a Qualitative or Quantitative fit test.

The fit test will be given after the medical evaluation is completed and before respirator use is permitted. Re-testing will be done annually or when there is a change in physical condition that could affect respirator fit.

## Respirator Use

No employee will be allowed to wear a tight-fitting face piece respirator with a beard or when any facial

# Personal Protective Equipment

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hair interferes with the face to face piece seal of the respirator or with the valve function.

Any other PPE must be worn so it doesn't interfere with the face to face piece seal. An employee must perform a user seal check every time a respirator is put on.

Vapor or gas cartridges or filters will be replaced based on the end of service life indicator. If no indicator is provided; the employees will change them, as scheduled.

## General Maintenance

Respirator maintenance will be done in accordance with manufacturer's recommendations.

Employees will be given time to and will be responsible for the cleaning, disinfecting, inspection and storage of respirators.

Respirators will be inspected before each use and during routine cleaning.

All respirators found to be defective must be brought to the attention of the Supervisor or the Safety Director and will be removed from service and discarded or tagged as defective.

## **D. TRAINING**

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Before wearing a respirator in the work place, employees will receive training on the respiratory hazards to which they are exposed, the proper use, care, and maintenance of respirators, and the limitations of the respirators.

Each employee must be able to demonstrate a working knowledge of:

- Respirator function and usefulness
- The effects of improper fit, usage, and maintenance on a respirator's effectiveness

- Limitations and capabilities of the respirator
- The correct way to inspect, put on, remove, use and check the seals of the respirator
- Proper respirator cleaning, maintenance and storage, as appropriate.
- Retraining will be done at least annually or when:
  - There are changes in the workplace or the type of respirator being used
  - Employee use indicates a lack of knowledge or the proper use.

## **E. PROGRAM EVALUATION**

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A checklist will be used to evaluate the effectiveness and implementation of the Respiratory Protection Program.

The program will be modified and additional training added whenever there is an indication there is improper use or lack of knowledge or respiratory protection.

Employees will provide feedback on the program's effectiveness.

## **F. RECORDKEEPING**

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The following records will be kept on file, as required:

- Fit tests, if required,
- Respirator training,
- Medical recommendation for respirator use, and
- All other documents that support the written program.
  - Example: any air monitoring records and information on hazard assessments provided by host employers.

## 14.2 HEARING CONSERVATION

### A. PURPOSE AND SCOPE

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This program is developed to comply with 29 CFR 1910.95 and 29 CFR 1926.52 Occupational Noise Exposure to ensure the protection of employees from hearing loss. The extent to which the elements of this program will be implemented depends on the noise levels present. Whenever employee noise exposure equals or exceeds the 8 – hour time-weighted average (TWA) noise level of 85 decibels, A scale – slow response; i.e., the action level, this program will be implemented in its entirety. When noise does not exceed these levels, but hearing protectors are provided for comfort, responsibilities and actions will be limited to training, selection and the safe use of the protectors.

### B. RESPONSIBILITIES

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If necessary, personal monitoring will be conducted by:

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If necessary, audiometric testing will be provided by:

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#### Safety Director

The Safety Director will:

- Conduct noise monitoring as needed, but may rely on noise exposure data from the host employer, and arrange for a proper hazard assessment to determine the proper type of hearing protection to be used.
- Train employees to recognize potential workplace environmental noise hazards.

- Train the employees in the proper selection, use, care, cleaning, storage and limitations of the hearing protection.
- Make a copy of the standard and all records related to the standard available to all employees upon request and as needed.

#### Supervisor

The Supervisor will:

- Ensure that employees who are exposed to hearing hazards have and use the appropriate hearing protection.
- Ensure that a copy of the standard is posted as needed.

#### Employees

Employees will:

- Be trained to recognize workplace environmental noise hazards and the appropriate measures to protect themselves including, but not limited to, hearing protection.
- Use hearing protection when conditions warrant its use.

### C. ACTION DETAILS

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A copy of the standard and all records related to the standard are available to the employees upon request from: \_\_\_\_\_.

The standard has been posted at \_\_\_\_\_.

The exposure measurements and audiometric tests shall be kept on file at \_\_\_\_\_.

# Personal Protective Equipment

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## **Monitoring**

Personal monitoring will be conducted whenever there is insufficient information from a host employer and noise levels indicate there is a need (i.e. employees have difficulty hearing each other due to noise levels for an extended period of time.)

If monitoring is needed, the provider used for noise monitoring will be given special notice to the mobile nature of employees and the variable noise levels experienced throughout an employee's work day.

All employees exposed to noise levels above 90 decibels (TWA) will be given a copy of the results.

## **Audiometric Testing Program**

If testing is needed, the provider of the audiometric testing program will be given a copy of the OSHA standard to ensure that the testing procedures meet OSHA requirements.

The testing program will include baseline and annual audiograms.

The annual audiogram will be reviewed against the baseline by a competent medical professional.

An audiologist, otolaryngologist, or physician shall review problem audiograms to determine if there is a need for further evaluation.

All noise monitoring, audiometric testing and employee notification will be performed as required by the standard.

## **Hearing Protectors and Attenuation**

Appropriate hearing protectors will be supplied to all affected employees.

Attenuation requirements will be reevaluated when noise exposure changes.

## ***D. TRAINING***

Each employee exposed to noise levels of concern will participate in training that includes:

- The effects of elevated noise levels on employees' hearing,
- The types of hearing protection that are appropriate to be used by employees,
- How to properly insert and/or wear the various types of hearing protectors,
- The use, care, cleaning and disinfecting, and limitations of the various types of hearing protectors that are being used, and
- The purpose of audiometric testing.

## ***E. RECORDKEEPING***

Where noise measurements or audiometric testing are performed, these measurements will be kept on file. Noise measurement records will be kept for two years. Audiometric tests shall be kept for the duration of the employee's employment.

Records of the noise level test rooms shall be provided by the health center and kept on file with other noise exposure records.

If necessary, these records will be transferred to new owners. All records are available upon request to employees, former employees, representatives designated by the individual employee, and the Assistant Secretary. See the provisions of 29 CFR 1910.1020 – Access to employee exposure and medical records or 1926.33 - Access to employee exposure and medical records.

# Scaffold Safety Program

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## A. PURPOSE AND SCOPE

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Falls are the leading cause of fatalities in the construction industry and represent a major hazard in all industries. This program is in accordance with OSHA's Scaffold Standard 29 CFR 1926 Subpart L which includes platform and suspended scaffolds as well as aerial lifts. It establishes those responsibilities and is a basic component of the company's safety and health program.

## B. RESPONSIBILITIES

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### Safety Director

The Safety Director will:

- Ensure that equipment is provided for safe erection, dismantling, and use of scaffolds, including fall protection systems as needed.
- Ensure scaffolds are erected in accordance with Subpart L of 29 CFR 1926, OSHA Scaffold Standard.
- Make certain that scaffolds which are beyond the scope of the conditions described in 29 CFR 1926 Subpart L will be designed by a registered, professional engineer.
- Provide a competent person to perform inspections and ensure compliance with Subpart L, OS- HA's Scaffold Standard.

### Supervisor

The Supervisor will:

- Ensure that damaged or unsafe scaffolds and/or components will be clearly tagged "DO NOT USE" and removed from service.
- Ensure that scaffolds constructed by other trades which employees are instructed to use are inspected and approved by a competent person before employees are allowed to use them.

- Make certain all employees are trained in the safe erection, dismantling, and use of scaffolds.
- Ensure that current operating and safety manuals are placed in each lift to be used by lift operators.

## Employees

Employees will:

- Participate in all training programs associated with the erection, dismantling and use of scaffolds.
- Obey the rules for the safe erection, dismantling, and use of scaffolds as identified in Subpart L, OSHA Scaffold Standard.
- Check with the company's competent person each day before using a scaffold to ensure it has been inspected and approved.
- NOT USE scaffolds erected by other trades unless approved by the company's designated competent person.
- Report all hazards immediately to their supervisor.
- Inspect and operate lifts according to the manufacturers' operating and safety manuals
- Receive training in recognizing the hazards associated with the operation of and/or working near aerial and scissor lifts.

## C. AERIAL LIFTS

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Aerial lifts include boom-supported aerial platforms, such as cherry pickers or bucket trucks. The major causes of fatalities are falls, electrocutions, and collapses or tip-overs. To avoid these potential fatalities, the following safe work practices will be observed:

- Elevating work platforms will be maintained and operated in accordance with the manufacturer's instructions.

# Scaffold Safety Program

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- Hydraulic, mechanical, or electrical safety devices will not be overridden.
- Equipment will not be moved with workers in an elevated platform unless this is permitted by the manufacturer.
- Workers will not be allowed to position themselves between overhead hazards, such as joists and beams, and the rails of the basket. Movement of the lift could crush the worker(s).
- A minimum clearance of at least 10 feet, or 3 meters, away from the nearest overhead lines will be maintained.
- Power lines, wires and other conductors will always be treated as energized, even if they are de-energized, covered or appear to be insulated.
- A body harness or restraining belt with a lanyard attached to the boom or basket to prevent the worker(s) from being ejected or pulled from the basket will be used.
- Brakes will be set and wheel chocks used when on an incline.
- Outriggers will be used, if provided.
- Load limits of the equipment will not be exceeded. The combined weight of the worker, tools, and materials will be considered in all calculations.
- Unstable objects, such as barrels, boxes, loose bricks or concrete blocks will not be used to support scaffolds or planks.
- Scaffolds will not be erected, moved, dismantled or altered except under the supervision of a competent person.
- Scaffolds will be equipped with guardrails, midrails and toeboards.
- Scaffold accessories, such as braces, brackets, trusses, screw legs or ladders that are damaged or weakened from any cause will be immediately repaired or replaced.
- Scaffolds platforms will be fully planked with no more than a one inch gap between planks. The planking will be scaffold plank grade material or equivalent.
- A “competent person” will inspect the scaffolding and, at designated intervals, re-inspect it.
- Employees will be instructed about the hazards of using diagonal braces as fall protection.
- Scaffolds can be accessed by using ladders and stairwells.
- Scaffolds will be placed at least 10 feet from electric power lines at all times.

## D. SCAFFOLDS

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When scaffolds are not erected or used properly, fall hazards can occur. To avoid these potential accidents, the following safe work practices will be observed:

- Scaffolds will be sound, rigid and sufficient to carry its own weight plus four times the maximum intended load without settling or displacement. It will be erected on solid footing.

## E. TRAINING

---

All employees that will perform work while on a scaffold will receive training conducted by a qualified person. The training program will cover, at a minimum, the following elements:

- The ability to recognize the hazards associated with the type of scaffold in use
- Identification of procedures to control or minimize hazards of scaffold use

## Scaffold Safety Program

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- Proper use of the scaffold and handling of materials on the scaffold
- The importance of observing the maximum intended load and the load-carrying capacities of the scaffold in use.
- The ability to recognize the hazards associated with the type of aerial lift in use
- Identification of procedures to control or minimize hazards associated with aerial lift use.

# Trenching and Excavations

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## **A. PURPOSE AND SCOPE**

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The goal of the Trenching and Excavation program is to protect all employees exposed to excavation or trenching operations. This can be accomplished through pre-planning and careful implementation of all applicable state and federal safety standards. This written program works to create and maintain a safe work environment as required by 29 CFR 1926 Subpart "P".

## **B. RESPONSIBILITIES**

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### **Safety Director**

The Safety Director will:

- Prepare a safety checklist prior to the start of digging.
- Check the proximity of utilities, buildings and vibration sources.
- Contact the owners of affected utilities prior to digging and arrange for shutdown or relocation of facilities, if necessary.
- Provide daily jobsite excavation permission.
- Check the adequacy and availability of all equipment including PPE, shoring materials, signs, barricades and machinery.
- Ensure employees are trained to recognize hazards associated with a trench or excavation.

### **Supervisors**

Supervisors will:

- Ensure proper placement of equipment and materials storage.
- Determine the layout of the jobsite.
- Establish a vehicle traffic control plan and ensure installation of traffic zone safeguards.
- Ensure that the trench or excavation is safe for employee occupation.

## **Employees**

Employees will:

- Prepare a safety checklist prior to the start of digging.
- Check the proximity of utilities, buildings and vibration sources.
- Contact the owners of affected utilities prior to digging and arrange for shutdown or relocation of facilities, if necessary.
- Provide daily jobsite excavation permission.
- Check the adequacy and availability of all equipment including PPE, shoring materials, signs, barricades and machinery.
- Ensure employees are trained to recognize hazards associated with a trench or excavation.

## **C. ACTION DETAILS**

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A copy of 29 CFR 1926 - Subpart "P" will be made available on the jobsite.

A competent person with a comprehensive knowledge of OSHA's Excavation Standards and the safe practices necessary to ensure employee safety will remain on site while work is being performed in trenches or excavations.

A pre-job site review will be conducted to develop a job plan that ensures a safe, efficient job process and evaluate difficult sloping and shoring problems (i.e. manholes, etc) prior to commencing the work.

All trenches will be properly classified, sloped, or shored in accordance with the appendices of 29 CFR 1926 - Subpart "P", or in accordance with manufacturers tabulated data (i.e. Excavations 5 feet (1.52 m) or greater in depth or any depth where a competent person determines that there is a potential for cave-in).

# Trenching and Excavations

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The competent person will consult with a Registered Professional Engineer (RPE) for trenches over 20'.

Inspections of equipment and trench conditions will be performed by the competent person at the start of each shift or as needed by changing conditions.

Sufficient means for exiting excavations 4 feet deep or more shall be provided and are within 25 feet of lateral travel for employees.

Soil conditions will be determined by visual and manual tests to determine stability of soil and surrounding trench conditions.

NOTE: If visual and manual tests are not performed, soils shall be classified as type "C".

Ramps and walkways will be provided for employee use in accordance with OSHA standards.

Employees will not be permitted to work in excavations where water has accumulated or is accumulating unless adequate precautions have been taken. Diversion ditches, dikes, or other means shall be used to prevent surface water from entering an excavation and to provide drainage to the adjacent area.

Tests will be performed for the presence of oxygen and air quality in excavations as needed. The competent persons on site will be qualified in identifying confined/hazardous spaces due to the presence of flammable/combustible gases, toxics, oxygen deficiency and oxygen enriched environments.

While the excavation is open, underground installations shall be protected, supported or removed as necessary to safeguard employees. Adjacent structures shall be supported to prevent possible collapse.

Employees will not be permitted under loads that are handled by lifting or digging equipment. Employees

will not be allowed to work near the excavation above other employees unless the lower level employees are adequately protected.

Records for the protection systems used will be maintained on site.

Appropriate emergency rescue equipment will be available to meet existing or potential conditions.

## C. SLOPING

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Where sloping is used to protect employees from cave-ins the angle of incline shall be determined using the following; soil type, environmental conditions of exposure and application of surcharge loads. Where soil type is the predominant factor the following angles will be observed.

<u>Soil or Rock Type</u>	<u>Maximum Allowable Slopes (H:V) For Excavations Less Than 20 Feet Deep</u>
Stable Rock	Vertical (90°)
Type A	3/4:1 (53°)
Type B	1:1 (45°)
Type C	1½:1 (34°)

## D. SOIL CLASSIFICATIONS

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The following describes the types of soils our company may work in.

### Type A

Cohesive soils with an unconfined, compressive strength of 1.5 ton per square foot (tsf) (144 kPa) or greater.

# Trenching and Excavations

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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:

- The soil is fissured
- The soil is subject to vibration from heavy traffic, pile driving, or similar effects
- The soil has been previously disturbed
- 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
- The material is subject to other factors that would require it to be classified as a less stable material

## Type B

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

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.

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

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

Dry rock that is not stable OR 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.

## Type C

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

Granular soils including gravel, sand, and loamy sand or submerged soil or soil from which water is freely seeping or submerged rock that is not stable

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.

## **F. EMERGENCY RESPONSE**

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In the event an employee becomes entrapped in a cave in, rescuers must proceed with caution. The following procedures shall be followed:

- A protective system must be in place before rescuers are allowed to enter the excavation.
- Call 911 and the Safety Director.
- Request a police escort for rescue equipment (i.e. shoring equipment, etc).
- Only dig by hand or use hand digging tools in the area the victim is believed to be located.
- When rescue equipment arrives on scene, employ a protective system or vacuum the soil around the victim as much as feasibly possible.
- Continually analyze, and implement new tactics that best rescue the victim.
- Allow higher trained emergency response personnel to complete tasks as needed.

## **F. TRAINING**

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Employee training will include, but is not limited to, the following:

## Trenching and Excavations

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- Recognition of hazards that could affect the safety of a trench or excavation
- Correct methods of access and egress of a trench or excavation
- The appropriate forms of PPE necessary while working in and around a trench or excavation
- The correct placement of materials and excavation materials to the edge of the trench or excavation
- The correct protective system to be used and its correct installation

# Vehicle Safety Policy

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## A. PURPOSE AND SCOPE

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The goal of this program is to ensure that operations involving the use of vehicles are conducted such that accidents which may injure people or cause damage to property and/or the environment will be avoided.

The motor vehicle procedures identified address the requirements as identified in 29 CFR 1926.601 Motor Vehicles and Section 5(a) 1, General Duty Clause of the OSH Act of 1970 and the DOT Federal Motor Carrier Safety Regulations Parts 40,325, 355-379, 381-399.

## B. RESPONSIBILITIES

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### Safety Director

The Safety Director will:

- Ensure that all company vehicles are safe, in good working order and inspected according to any federal and/or state regulations
- Ensure that all employees whose job includes operation of a motor vehicle are trained in the recognition of hazards associated with the motor vehicle and safe operation of the motor vehicle.

### Employees

Employees will:

- Whose job includes operating a motor vehicle, will participate in training to recognize hazards associated with motor vehicle operations.
- Will sign and abide by the Vehicle Safety Policy which includes the mandatory use of a seat belt/safety harness while operating or riding in a motor vehicle.
- Whose job includes operating a motor vehicle, will perform a pre-trip and post-trip inspection of company vehicles.

## C. VEHICLE SAFETY ACTIONS

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All employees operating company vehicles or operating personal vehicles on company business are subject to the following:

- Authorized to operate only the vehicle assigned to them by their supervisor. Vehicles should be used only for conducting the necessary company business as assigned. Supervisors must approve all tasks requiring the use of company vehicles before they are performed.
- In possession of a valid driver's license and the correct license endorsements needed for the vehicle assigned. The supervisor must be notified when there are changes to license status. No vehicles may be operated without a proper license.
- No one may operate a vehicle unless training has been received in the inspection, operation and maintenance of the vehicle assigned.
- Inspection of assigned vehicles will be done before and after each trip following the established company procedure. A vehicle may never be used that does not pass. Inspection results will be documented on the appropriate form and provided to the supervisor.
- All necessary documentation (driver's license, owner card, insurance card, medical card, log books, manifests, etc. as required.) shall be in the vehicle before it is used.
- Seat belts and shoulder harnesses, if installed, must be worn by drivers and passengers at all times. Vehicle may not be operated unless all are wearing safety belts and shoulder harnesses.
- No one other than the individual assigned to a vehicle may operate it. Nor are any passengers other than those authorized by a supervisor allowed in the vehicle.

# Vehicle Safety Policy

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- Supervisors will be notified immediately of any legal citations received while operating a vehicle on or off the job.
- All accidents will be reported following established company procedures.
- The Company Substance Abuse policy must be observed at all times. Vehicle will not be used while under the influence of alcohol, illegal drugs or hazardous prescription medication. Employees will not ride with anyone under the influence of alcohol, illegal drugs or hazardous prescription medication.
- All traffic laws will be obeyed and vehicles operated in a safe and courteous manner at all times.
- If personal vehicles are used on company business employees shall ensure that their vehicles meet all standards established for company vehicles.

## **D. TRAINING**

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All employees that will use company vehicles will receive training conducted by a qualified person. The training program will cover, at a minimum, the following elements:

- Pre-trip and post-trip inspections on all vehicles they are assigned to operate
- Hazards of driving while impaired
- Use of protective equipment, emergency equipment and vehicle safety systems
- Hazards associated with vehicle operation and the action to take in the event of an emergency
- Checking the weight of vehicles to prevent overloading
- Distributing and securing loads properly
- Special training for drivers who haul hazardous substances
- Establish a plan to monitor the vehicle safety program.

# Welding and Hot Work

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## A. PURPOSE AND SCOPE

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The Company has developed this Welding and Hot Work Program to ensure that all employees receive adequate information relevant to the possible hazards that may be involved with welding and hot work. For the purposes of this program, "Hot Work" is defined as welding, cutting, soldering, brazing, grinding, and other forms of torch operations that will introduce sparks or open flame to a work area. Potential safety and health hazards can result from the gases and vapors, dusts and fumes, sparks, hot metal, and radiant energy produced during hot work operations.

This Hot Work Program is intended to:

- Preserve the safety and health of Company workers performing work near hot work operations
- Ensure the safety of all occupants that may be present during hot work operations
- Limit losses from accidental ignition of materials in the vicinity of hot work operations
- Prevent accidental activation of the premise fire detection system, if present.

The following program outlines how this objective will be accomplished. This policy covers all potential workplace exposures involving hot work as defined by federal (29 CFR 1910.252 – Welding, Cutting, and Brazing and 1926.352 – Fire Prevention), state and local regulations, and NFPA 51B – Fire Prevention in Use of Cutting and Welding Processes.

## B. RESPONSIBILITIES

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### Safety Director

The Safety Director will:

- Monitor this Welding and Hot Work Program.

- Coordinate any hot work activities performed by or near Company employees with the Host Employer. Hot work performed by others has the potential to affect Company employees.
- Review requests submitted by supervisors for hot work and issue a Hot Work Permit where needed.

### Supervisors

Supervisors will:

- Identify jobs where hot work will be performed and ensure a hot work permit is secured for the job.
- Consult with the host employer and review the jobsite for hazards associated with the hot work. Provide this information to the Safety Director.
- Control hazards as directed on the permit provided by the Safety Director.

### Employees

Employees will:

- Follow all safety and health procedures described in this program
- Consult Safety Data Sheets (SDSs), as needed, for additional safety and health precautions associated with hazardous materials used in hot work.
- Report all safety and health issues associated with hot work operations at the jobsite. All questions should be referred to the Safety Director or Supervisor.

## C. HAZARD DETERMINATION

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The Company does not intend to evaluate any of the hazardous substances associated with hot work activities, but has chosen to rely upon the evaluation performed by the suppliers or by the manufacturers of the substances to begin to identify specific hazard

# Welding and Hot Work

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associated with any particular type of hot work. The Company will also rely on any hazard assessment information that can be provided by the Host Employer.

## **D. HOT WORK PERMIT AREAS**

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Hot work areas will be inspected before hot work begins and/or during hot work activities. The fire alarm systems or devices may be disabled as directed by the Host Employer. Restrictions on duration of any hot work are usually at the discretion of the Host Employer. Most hot work permits are:

- Specific to a hot work activity
- In the designated area
- For the designated time frame.

Where hot work activities are to be performed, the Safety Director or his/her designee will meet with the Host Employer to discuss any additional precautions that may have to be implemented to protect the safety and health of Company employees who may be working in the vicinity of the hot work activities.

This could include using barrier tape to designate the area(s) where special clothing or personal protective equipment is required to work within the designated area. If it is decided that special precautions are necessary to protect Company employees, the affected employees will be notified and given an opportunity to discuss their concerns during the job briefing.

## **E. TRAINING**

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All employees working in the vicinity of hot work activities will be informed of the:

- Health and safety hazards of an employee associated with the type of hot work that may occur
- Proper selection of protective clothing and personal protective equipment that may be required to work in the vicinity of hot work activities
- Elements of this Hot Work Guidance Program.